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1915

THE VAN DUSEN NURSERIES

DWARF McINTOSH COLLECTION

The varieties in this collection approach as closely as possible to the McIntosh Quality. For just a few Dwarfs to try, you will be more than pleased with them all.

1 Dwf. McIntosh Apple	$.50
1 Dwf. Seckel Pear	.40
1 Dwf. Damson Plum	.60
1 Dwf. Montmorency Cherry	.60
1 Dwf. Sand Cherry	.25
1 Dwf. Elberta Peach	.30
List Price	$2.65
COLLECTION PRICE	2.00

W.L.McKAY PROP.
GENEVA, N.Y.

A Catalogue of Dwarf and Standard Fruit Trees

SMALL FRUITS AND ORNAMENTALS

ISSUED BY

The Van Dusen Nurseries, Geneva, New York

Compiled and Edited by W. L. McKAY, Proprietor

There are today probably several hundred catalogues of nursery stock printed and distributed on request, all interested mainly in the selling of Standard Fruit Trees. I believe I am correct in saying that with the exception of ours, none of them devote much space to the matter of the Dwarf Fruit Trees. For this reason we are devoting more space than perhaps seems justified in dealing with the Dwarf Trees, but we are doing so for the reason that the tree buying public in this country has had little opportunity to learn about Dwarf Fruit Trees, and we think will be more interested in this part of the subject than if we tried to instruct them in regard to Standard trees, about which most of our readers know as much as we do—possibly more. Because we devote such a large part of our space to the subject of Dwarfs, however, does not mean that we are doing little with Standards. We have a very full line of Standards as well as Dwarfs, and without exception **every variety we offer as both Dwarf and Standard, we are growing ourselves,** and believe with the personal attention we give our customers in getting up their orders, that there are few nurserymen who can give you **as good** service, and none better, than we, in both branches of the nursery business.

OUR GUARANTY—SUBSTITUTIONS

We take a different position with respect to orders evidently intended for commercial orchard planting, from those evidently intended for home use only.

Orders for the Orchard—In respect to such orders we guarantee our customers against wilful or intentional change of labels, and will exercise the greatest care to have every variety exactly what it purports to be. In case of any error we will replace with other stock or refund the purchase price as preferred. On such orders **if you desire** substitutions made in case we are out of a variety ordered, **please state this wish when you place your order,** otherwise we shall omit such varieties and refund the money for them.

Orders for the Garden—On these orders, showing from the number of each variety ordered that they cannot be intended for commercial orchard, we shall, if out of a variety ordered, send some other variety in its place, **correctly labeled.** We shall send a variety as nearly like the one ordered as we have, and no low priced variety will be sent for a higher priced one without refunding the difference in cost. This will be our general rule; now, if you desire no changes whatever in your order, state the fact and no changes will be made, and the money will be refunded for any varieties that we cannot furnish.

If your order is for fruit trees, we shall construe an order for ten or more trees of a variety as being intended for commercial planting, such as 10 McIntosh, but not 10 apple trees made up of several varieties. In small fruits, however, there may be room for doubt, and therefore we would much prefer that you indicate your wishes about each variety when ordering.

CASH WITH ORDER

We shall decline to fill orders not paid for before shipment. That we ask for cash is no reflection on the credit of our customers, but is an absolute necessity to success in a mail order business where thousands of orders are handled, the average amount of which is a very few dollars each. Neither do we ship C. O. D. This is both more expensive for the buyer, and makes more trouble in shipping when our whole force is very busy.

MANNER OF REMITTING

Any way most convenient to you—postal or express order, or your own personal check. Do not send cash in a letter without registering.

WE DO NOT REPLACE STOCK THAT FAILS TO LIVE

We are asked so many times in regard to this that we make this statement here as plainly as possible. If you bought a horse you would not expect a similar guaranty: the fact that when buying through agents this guaranty is usually given is no reason for asking it from us, for through an agent you would pay from two to three times the prices at which the same stock is listed here. We are always willing to make anything right if we are in any way at fault, but please do not wait till a tree has died before entering a complaint and then ask us to send you another free.

MANNER OF SHIPPING

Except where stock is quoted by parcel post, all shipments are delivered at express or freight office in Geneva, N. Y., where our responsibility ceases. Any claims for stock not being right in any way must be made within five days from receipt of same.

All shipments other than by post will be by express except (1) orders large enough to require boxing, and (2) unless you positively order freight shipment.

The cost on small orders by express is very little more than by freight, and on all small orders packed in bales, we regard it absolutely necessary for their safe arrival to go by express. Don't pay money for good stock and then risk all for a possible small saving in transportation. If you are willing to leave this to us we will consult your interests always in deciding upon the manner of shipment. Late shipments in spring or fall must necessarily go by express to avoid damage, regardless of size.

It is rarely practicable to send trees by parcel post; if of any considerable size the circumference and length of package prohibit it, and for heavy packages the express is the cheaper.

A Table of Contents will be found on the inside of the back cover. On the same page are also notes on the proper time to plant trees in the spring and on the size of dwarf fruit trees, both of which, in justice to yourselves and us, you should read.

Training a dwarf pear tree to the double U-form: first year. Next season the interior pair of arms will be grown.

THE DWARF TREE FOR THE AMATEUR

Perhaps the class of people to whom the dwarfs make the strongest appeal is the amateur grower. By this I mean the man or woman or boy or girl who plants a tree **just because he or she wants to;** it's a most delightful plaything, and one too that has for the grower big educational possibilities. The amateur grower is usually perfectly able to buy all the fruit he needs, but to him that one specimen of apple that he may grow on a cordon or little bush a year or two after planting, has more solid delight in it than a car load of Jonathans from the Hood River Valley could give. It's just like our babies; there are millions of just ordinary babies in the world, but our own particular baby is the only one that is really of much account. The most restricted city or village lot has room for a few little bushes, or possibly even 40 or 50 cordons along a fence or building.

The only possible objection I can raise against the dwarf tree for the amateur grower is that it's too small to climb! When it comes to training it in different ways of growing, you can make it take any shape you wish; if you have room you can make if form the letters of your name or monogram. Professor Waugh reflects the true amateur spirit when he says: "My experience with dwarf apples might be summarized by saying **'bush apples for business, cordons for fun.'"**

For the amateur who wishes to grow fruit for purposes of exhibition the dwarf tree enables him to grow a hundred different varieties on the same area required for four somewhat closely planted standards.

There are two delightful books that those interested in Dwarf Fruit Trees should own, those by Prof. F. A. Waugh, and Dr. A. W. Thornton, mentioned in the next column. The former can be obtained from the publishers, The Orange Judd Company, New York City, and the latter by writing direct to Dr. A. W. Thornton, Ferndale, Washington; each book 50c, post paid.

Both these writers, one almost within sight of the Atlantic and the other on the shores of Puget Sound, took up the culture of dwarf fruit trees from a thorough love of the work, and into their books each has infused the charm of his own personality and presents his subject with genuine literary ability.

Perhaps the only other distinctly American publication on the subject is the Cornell Bulletin No. 116 by E. G. Lodeman, published ten years before either of the above publications. Mr. Lodeman's bulletin, however, is mainly historical, while both Dr. Thornton and Prof. Waugh tell what they themselves have actually done with dwarf fruit trees right here at home.

In compiling this catalogue acknowledgments are made to the following publications:

The Apples of New York, by Prof. S. A. Beach, formerly Horticulturist at the New York Agricultural Experiment Station at Geneva, now Professor of Horticulture in the State Agricultural College, Ames, Iowa.

The Grapes of New York and The Plums of New York, both by Prof. U. P. Hedrick, the successor of Prof. Beach at the New York Agricultural Experiment Station

The American Fruit Culturist, by J. J. Thomas, one of our pioneer nurserymen and horticulturists, who in 1839 founded the business which is now "The Van Dusen Nurseries."

Dwarf Fruit Trees, by Prof. F. A. Waugh, Horticulturist, Massachusetts Agricultural College.

The Pruning Book, by Dr. L. H. Bailey, formerly Dean of the New York State Agricultural College.

The Miniature Fruit Garden, by Thomas Rivers, a prominent Horticulturist of England the middle of the last century.

Bulletin No. 116 on Dwarf Apples, by E. G. Lodeman, Assistant in Horticulture, Cornell University.

Dwarf Fruit Tree Culture, by Dr. A. W. Thornton, Nurseryman, Ferndale, Washington.

Acknowledgment is also made to the Massachusetts State Agricultural Society for use of their library tendered through the Secretary, Mr. W. E. Rich, also to the Library of Harvard University, through Mr. Frank Carney, Superintendent of Circulation, for access to many old and rare English and French works on horticulture, some of the authors of which are referred to in our text.

This cut, by courtesy of Prof. Waugh, shows apples planted in upright cordons, probably in their third year. If it is desired to cultivate by horse, plant rows 5 or 6 feet apart and the trees 18 inches apart in the row. They may be planted 15 inches if desired but 18 inches is ample room. The method of trimming for this form is given on page 12. If horse cultivation is not desired, the rows may be made three to four feet apart.

THE DWARF TREE FOR THE HOME GARDEN

In the spring of 1910 I first offered dwarf apple trees for sale, accompanied by this statement: "We make no claim for their superiority over standards as a business proposition—frankly, I do not believe in them at all for commercial purposes—but I do believe in dwarfs for family use, especially where the question of space must be considered."

Ten or twelve years prior to this time there had been a marked tendency to think seriously of dwarf apples for the commercial orchard on account of more easily controlling the scale which had recently appeared in the east. The State Experiment Station had planted an orchard here, 16 by 16 feet, as well as three others in different parts of the state to test their desirability.

The early solution of the scale trouble by the use of the lime-sulphur solution, however, almost immediately stopped all consideration of the dwarf tree commercially. That in 1910 the idea of the dwarf tree in the commercial orchard was a dead one, is shown in a letter received by me from Professor Beach, author of "The Apples of New York," congratulating me on the position I had taken in regard to them.

I have maintained practically the same position taken by me in 1910, until reading Professor Waugh's book in 1913; that summer I visited Professor Waugh at Amherst and saw his trees fruiting under the different forms of training which they received. After seeing his trees, in my Dwarf Tree Bulletin of March, 1914, I modified my suggestions as to distances and suggested as close as 6 feet apart each way for the bush forms, and for the other forms the distances usually advised by the different writers on the subject.

After these five years my ideas have changed somewhat—I trust they have grown: certainly as to the merits of the dwarf tree for the home garden they have grown still more emphatically in favor of it.

I have had standard apple trees on my own place here in the city. When I came to the home where I now live, 33 years ago, there were an Early Harvest, a Sweet Bough, and a Roxbury Russet on the place. We had about twenty times as many early apples as we could use, then nothing till the late Russets came on. This tree was so high that to pick them one would need a balloon—so we let them drop and the boys who picked them up all during fall and early winter, appreciated them even if we didn't. This tree had a spread of over forty feet and when we cut it down last fall it told its age—nearly 80 years; it seemed criminal to destroy it, but it was too big to spray, too big to pick, and, had we been able to harvest the fruit would have given us twenty times as much fruit of that particular variety as we wanted. The space that these three trees occupied was ample for sixty trees in bush form. and for a few hundred if grown as cordons.

If you have a space of 50 by 50 feet, you have room for nine standard trees set 17 feet apart each way. With the same space planted to dwarfs in bush form, you can have a couple each of apricots and quinces, and a full dozen each of apple, pear, plum, cherry and peach trees—a possibility of 64 different varieties of fruit covering seasons from very earliest to very latest in all of these kinds.

If the object of a garden is to furnish the few members of a family a succession of different fruits for different purposes and at different seasons, it seems a waste of printers' ink to argue that the dwarf tree lends itself to this purpose in the highest degree, and that the standard tree really has no proper standing in the home garden.

The dwarf tree is not new by any means, although it has been comparatively little used in this country. Abroad the dwarf has been the garden tree of nearly all the European countries—England, France, Germany, Holland, Belgium, Italy, have brought the dwarf of practically all the fruits to a high degree of perfection. There is a horticultural literature in England going back about three hundred years, and so far as I can find an expression of opinion in this literature, right up to the present time, it is that the tree which we understand as a "standard", is entitled to no place in the English garden.

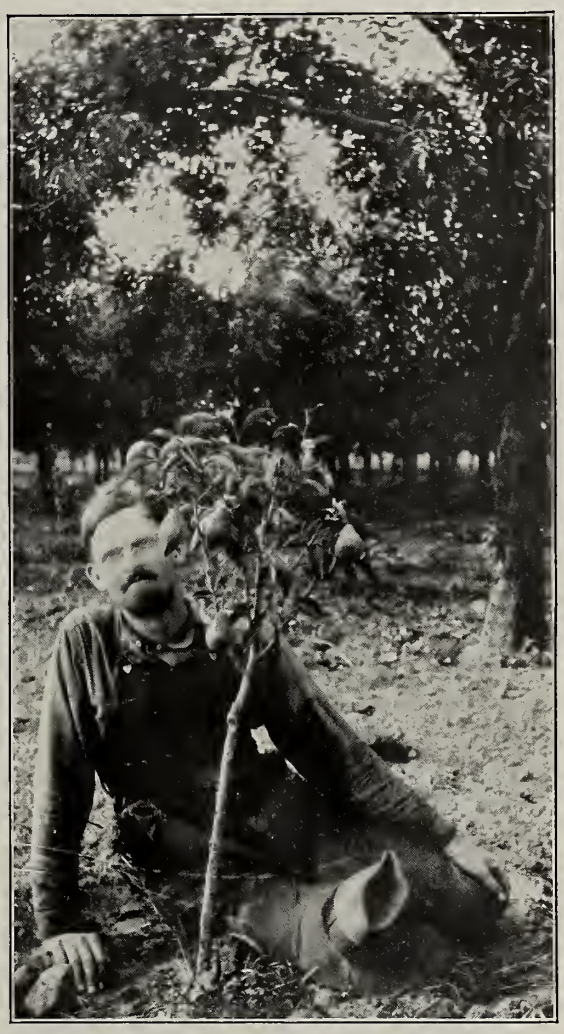
Upright cordons, about second year. We are indebted to Prof. Waugh for the photograph from which this cut is made.

THE DWARF TREE FOR THE HOME GARDEN—Continued

Recommending Dwarf trees for gardens, Corbett's English Garden published in 1829 says: "I do hope if any gentlemen makes a garden he will never suffer it to be disfigured by the folly of a standard tree, which the more vigorous its growth the more mischievous its growth to the garden."

Marshall says "The fewer standard trees in the garden the better." Also that the dwarfs are less trouble to keep in order and are generally more productive, and that "placed 8 or 9 feet distance, pruned and kept in easy manner, they make a fine appearance and produce better fruit and in greater quantities than when in espalier." W. C. Drury highly regarded as a modern English authority writing in 1900 says: "For the private garden or for market purposes, the dwarf or bush apple tree is one of the best and most profitable forms that can be planted." He also says: "In the garden only bush, pyramid or trained apple trees ought to be grown"; and: "The bush is one of the best forms of all, as it is of a pleasing shape and as a rule bears good and regular crops." Of the other kinds of fruit in bush form, Nicholas de Bonneferes, writing of the peach in 1675 advises it planted 5 feet each way and adds: "They will produce you a world of fruit by reason of their multitude."

This de Bonneferes evidently had his own troubles two hundred and forty years ago, just the same as some of our present day orchardists, if we may judge from the following quotation. He says: "It is to no purpose to have well prepared your ground unless you also plant it with the best and choicest *fruit* which you can find in the *nurseries* of the *Gardeners* as have the reputation of *honest* and trusty men; for the greater part of those who sell usually cheat those who deal with them." He not only gives our fraternity the above advertisement, but he proceeds to rub it in by advising those who buy even from the "*Gardeners* as have the reputation of *honest* and trusty men" to put their seals on the trees as they select them, so that they may be sure of getting the right ones! Horticultural methods may have changed in all these years, but the nurseryman's reputation seems to have remained just about the same! The same writer prefers the pear dwarfed "as they bear earlier and have larger fruit and with a high color." Drury recommends the cherry as a bush and of the plum says: "Plums as bushes and pyramids are very reliable and few people are aware how well they succeed as cordons against walls and fences." Fish, writing in 1882, recommends the bush and pyramid dwarfs for peaches and nectarines, and says that they give more fruit for a given area than grown in any other way.



W. J. McKay and dwarf Bartlett tree, taken summer 1914.

Mr. W. L. McKay,
Geneva, New York.
The package of dwarf fruit trees reached me in good shape and ought to do well by having such an early start.
The six I bought of you last fall are all doing well. Both peach trees bloomed and one matured a peach.
Sincerely yours,
(Mrs.) H. A. Van Heusen,
2117-L Street,
Sacramento,
California.
Nov. 6, 1914.

The pear dwarfed seems to have almost universal commendation by foreign writers as well as many American writers. Dr. Thornton says of it: "This fruit is greatly improved by dwarfing."

Speaking of dwarfed trees for the garden, I have left one of the strongest arguments for the last—their early bearing. In the spring of 1914 we planted an experimental dwarfed orchard of about 500 trees, including all our hardy fruits, of 280 different varieties in all. These were trained in many different forms, but the large part were grown as bushes. During the first summer under the proper dwarfing management, scores of them formed fruit spurs and buds and barring injury will bear another year.

Some of the dwarf trees which we ship the coming season will show well developed fruit buds.

Almost as we are writing comes this letter from Mrs. Van Heusen telling of a one year old dwarfed peach tree, planted in the fall of 1913, bearing fruit the following summer.

DWARF TREES FOR COMMERCIAL ORCHARDS

We are commercial fruit growers, having as many acres in bearing fruit as we have in nursery stock and as much more planted, not yet in bearing. I am experienced enough to know that it is a lot easier to make a mistake in planting an orchard than to correct it after it has been made, also that it's a **lot cheaper to avoid the mistake in the first place if possible.** For this reason, although I am coming round to believe that the dwarf tree is all right commercially under some conditions in the hands of certain people, I do not advise any one to "plunge" into planting dwarf apple trees blindly. But realizing that it is quite possible that one of the greatest reasons against the use of dwarfs may be the fact **that we have always planted standards,** I feel justified in suggesting to the commercial grower to try a hundred or so dwarf apple trees, and after planting them, to give them the care and treatment that the dwarf trees seem to demand.

It is but fair to state that the attempts at dwarf commercial apple orcharding in this country, which I have either seen or known of, seem to have been of doubtful or only moderate success. The State Experiment Station at Geneva has planted two orchards here, and three at other points in the state, and Professor Hedrick does not recommend them—he said distinctly to me in conversation on this subject within the past week that he considered the dwarf trees an all right proposition for the garden or for the amateur grower, but not for the commercial orchardist.

From my observation and from conversation with Professor Hedrick I would say that the Experiment Station orchards are fair samples of orchards planted with dwarf trees originally and allowed to grow as one would allow a standard orchard to grow, without any continued and persistent attempt to handle them as bush dwarf trees are handled by the gardeners abroad, who have been "brought up on dwarf trees" and know how to handle them.

The Station orchards here are handicapped by having perhaps a hundred or two varieties, the great majority of which of course are not adapted to our region or to commercial growing anywhere; but as I stood by the McIntosh tree shown here in the Fall of 1911, when the photograph was taken by Mr. O. M. Taylor, Foreman in Horticulture at the Station, I could not help feeling that here at least was a variety that was a success as a dwarf, even if treated as a standard as it then was and still is. Mr. Taylor and I agreed that this little seven year old tree had at least a barrel of fruit, and **every single fruit was strictly "fancy."** The tree could have been held at its size then and been planted as closely as 8 or 9 feet apart. Such a barrel of McIntosh as was on that tree when photographed has not sold for less than $5.00 a barrel taking the last ten year average of prices. Now that entire orchard was commercially a failure simply because no orchard of a hundred varieties can be a commercial success, but had that entire orchard been of McIntosh or Wealthy, or of many other varieties which seem to do well dwarfed, I think the beholder would have said

DWARF McINTOSH
Seven years old, on grounds of N. Y. State Experiment Station, with a barrel of perfect fruit.

DWARF TREES FOR COMMERCIAL ORCHARDS—Continued

unhesitatingly that it was **just the biggest little success of commercial orcharding he had ever seen.** An acre of such trees that year would have given at least 600 barrels of fruit. I regard the entire line of experiments of the Station on dwarfs as very inconclusive as to the value of dwarf orchards, because with very little variation they have been handled exactly like standards.

On the very date I am writing this, December 5th, we are just completing the planting of a small commercial dwarf orchard, about 500 trees of McIntosh, Jonathan, Wealthy, Delicious and Scarlet Beauty, and the two pears, Comice and Bosc. We planted part at 6 feet and part at 9 feet each way. Unless we get lazy and neglect them they will be handled like dwarfs, and we hope in a few years to have something more definite in regard to dwarf apple trees commercially than seems now to be known in this country.

So I say, if you can afford to plant a hundred or so dwarf apple trees to experiment with commercially, about ten or twenty of a kind, do it: it will at any rate be intensely interesting and you will certainly learn enough to know whether it's best to stop right there or to continue planting dwarf trees.

In plums and cherries I am inclined to think I would advise sticking to the standards for the commercial orchard of any extent. But in regard to the peach, I do not hesitate to say that if you want to get something into bearing **right off** and get the best results right through, **use the dwarfed trees,** about 9 feet apart.

I myself have never had experience with dwarf pears except a few dwarf Bartletts now on our place which have rooted from the pear above the bud, being planted deep, and they are my best Bartletts in orchards that are usually good for 500 bushels and upwards. If planting pears largely I presume my conservatism would hold me chiefly to standards, but I would certainly try my varieties also as dwarfs.

For the careless grower I would never advise a dwarf orchard—he'd better stick to standards, or better still grow hay and potatoes; but I cannot help feeling that in the hands of a thorough orchardist, within reach of a market that will take his fancy fruit, the dwarf apple tree has great possibilities.

The advantages of dwarf trees are earlier bearing; greater ease in spraying, pruning, thinning and picking; ability at short range to control such trouble as the Aphis, which, when they infest large trees in foliage, are beyond control; less liability to loss of fruit from winds; and as a final result the growing of a much better grade of fruit and the cultivation in the grower himself of more thorough methods in the orchard. Whether the better fruit results from the tree being a dwarf, as many claim, or, as I am inclined to think, from the better care the dwarf tree receives, is entirely immaterial; the fact that the dwarf does give the better fruit with proper care is the part that is material in the final test of profits.

The disadvantages of a dwarf orchard are the greater cost of the trees for planting a given area, and possibly a little more difficulty in cultivation, though I doubt if this will in the long run prove any greater. Even as close as six feet, if trees are allowed to make a five foot head, a single horse has ample room to go through with a cultivator or a barrel sprayer on a stoneboat. As to the additional cost for trees, if the five or six crops the dwarf trees will give before a standard orchard would come into bearing are not worth the additional cost of the trees it is hardly worth while to plant them in the first place.

Horizontal cordon apples, probably two or three years old. From photograph by Prof. Waugh.

FORMS OF DWARFS FOR DIFFERENT FRUITS
AND A GENERAL VIEW OF PRUNING

In Europe the word "standard" is used in contra distinction to the term "espalier", **standards being self-supporting fruit trees** while the **espaliers require artificial support.** In this country the word "standard" is used in contra distinction to the term "dwarf," so that we divide dwarfs into two classes—self supporting and espalier forms. "Espalier" means a "trellis", hence trees trained on a trellis came to be called "espaliers". The term espalier does not refer to any particular method or form of training. The **pyramid, bush** and **globe** forms of dwarfed fruit trees are all **self-supporting.** The **fan, palmette, gridiron, many-armed horizontal espalier** and the numerous **cordons** are all **espalier forms** and are grown on a trellis, fence, wire support or a wall. The gardener should understand that there is no essential method of training for any of the fruits. He may take **any fruit tree** and with proper care **train it to whatever form he may desire.**

However, we give here some of the forms to which the different fruits are more commonly trained. While these are not essential they seem to represent the more general practice, resulting somewhat from experience with the different habits of growth of the various fruits. **Apples, pears, plums, cherries, peaches** and **apricots** can all be grown in either **bush** or **pyramid** form. But the **bush** is preferable for **apples, sour cherries, peaches and apricots.** This is the most common form of all and requires the least labor of pruning and care in all respects. Fruit trees dwarfed in this form probably yield more fruit for the land and labor than trees trained in any other form.

The **pear** tree lends itself best to the **pyramid** form. **Plums** and **sweet cherries** will take to the **pyramid** form a little more naturally than to the bush. The **goblet** is a bush form where the leaders are trained with geometrical exactness to form the outlines of a rounded, open, symmetrical cup-shaped head.

A fine Dwarf Bush Peach Tree the first summer after planting. Will bloom next season.

Next to the bush and pyramid, the rather simple espaliers in the various cordon forms are the most easily managed. **All the cordon forms** seem particularly adapted to the **pear and apple.** A few of the strongest growing varieties will do better in the **U-form** than in the single upright cordon, or will succeed in any of the cordon forms having two or more leaders. **Plums** are rarely grown as horizontal cordons. Many varieties will be satisfactory as simple **upright cordons,** but most plums are strong growers and the rankest growing kinds will succeed better in the **U-form** or the **double U-form.** What we say of plums in the cordon forms applies about equally to peaches.

The **fan** and **palmette** are excellent for **peaches** and **apricots.** The fan also is well suited to **pears** and the **Japan plums.** The **candelabrum, gridiron,** and many armed **horizontal espalier** prove well suited to most varieties of **apples** and **pears.**

In managing **apples** and **pears,** checking the wood growth of side shoots on the leaders in summer induces the development of fruit buds which will bloom the following Spring. These buds form on short lateral branches or **fruit spurs** borne ordinarily on wood at least one full year old. Pinching back, however, may cause these fruit spurs to form on wood of **this year's growth.** Next year's fruit therefore will bear on wood either a year old or older. There is a tendency for these fruit spurs to produce fruit every other year, the year between being occupied with producing wood growth instead of fruit. This tendency holds for most fruit trees.

With **cherries** and **plums** a repression of wood growth induces early fruition same as with the apple and pear. The **fruit spurs** commonly develop on wood **a year old or older,** but may be forced to form on wood of this year's growth. The fruit therefore may bear on spurs growing on wood **one full year** old or older. **Japan plums** are especially liable to produce fruit buds on the current year's growth.

The peach does not bear on fruit spurs, differing thus from the apple, pear, plum and cherry. **Fruit buds form on this year's wood growth and bear fruit next year.** Very often on wood two years old or more, short fruit bearing shoots develop, but these usually bear only once and are not true fruit spurs.

The apricot makes fruit buds upon this year's wood like the peach, and also upon spurs which arise from last year's wood growth as in the case of the plum.

Du Breuil gives the following reasons for training dwarfs to special form:

1. It enables us to impart to trees a form suited to the place they are intended to occupy.
2. Each of the principal branches is furnished with fruit branches throughout its full extent.
3. It renders fruitification more equal; for in removing every year the superabundant buds and branches, we contribute to the formation of new fruit buds for the next year.
4. It conduces to the production of large fruit and of finer quality.

Fruit trees may be induced to dwarf growth in three ways:

(1) budding on a slow growing root;
(2) restricting the growth of the top;
(3) restricting the growth of the roots.

The growth of the tops is restricted by **summer pruning or pinching back** during the growing season, followed when necessary by severe heading back of the leaders early the next spring. Restricting the root growth is considered in this country rather an excessive measure practiced occasionally on the rankest growing varieties. When necessary it is accomplished by root pruning or by growing the tree with its roots within the confines of a pot, box or tub. In Europe pot grown dwarfs for the orchard house are for sale by many nurserymen, but they are little used in the United States.

Our particular attention is here given to the restriction of the growth of the head and the method of controlling its shape. We must understand at the beginning that the summer pruning or pinching back of the side shoots, and the winter pruning or heading back of the leaders are together necessary to limit the growth of the tree, to train it to the desired shape and to compel early production of fruit.

A **leader** is one of the **main branches** of the tree, whether bush, pyramid, cordon or any of the espalier forms. This leader originates at the butt or main trunk of the tree and ends in what we may call the leader terminal, which is young wood of this year's growth. This terminal growth of the leader must be **allowed to grow at will during the summer without pinching back.** This is left unchecked to secure vigorous circulation of sap throughout the tree, and is necessary for its healthy development. The only exception to this rule for allowing the leader terminal to grow unchecked, will occur when the leader makes such rapid and exuberant growth as to absorb all the growing energy and prevent its side shoots from growing strongly enough, or even to prevent these side shoots from starting to grow at all. When this happens, it is advisable late in June to top-off these leaders. That is, pinch off a few inches of the young terminal growth. This operation should control the growth of the leader and start its side shoots into proper development.

Leaves and side shoots grow out along the length of every leader. **These are to be pinched back during the growing season to form fruit buds.** If, as might be desired on a dwarf bush, one of the main branches is allowed to divide in two, each of these branches so formed becomes a leader and is treated as such in every respect.

Summer pruning and winter pruning are two distinct sorts. We summer prune or pinch back in the growing season. In New York State we consider the growing season as lasting from the middle of May until August. With us the winter or dormant pruning is usually done in February or early in March; but in any region this should be done before the buds start to grow. **Summer pruning** restrains growth and **causes production of fruit,** while, on the contrary, **winter pruning** causes increase of growth and **production of wood.** In general, the side shoots are subject to summer pruning and the leaders are subject to winter pruning. Summer pruning consists chiefly of pinching back young side shoots on the leaders. **When a side shoot has grown about six leaves pinch off the end so that but three leaves remain.** Thereafter during the summer as **often as these shoots send out three additional leaves, pinch off two of them.** This must be done every summer. The pinched back side shoots are thus induced to become fruit spurs, and to form fruit buds which should produce fruit the following year. If fruit spurs form too thickly along the leaders remove as many as necessary at the time of the dormant pruning in March. When you come to winter prune the young trees after their first season's growth, select all the leaders and cut away from one-half to two-thirds of their length. Repeat this every winter or in March, till you have the leaders as long or high as you want them; then in your winter pruning, cut back the new growth on these same leaders to within a few inches, or to two or three buds, of the point to which it was cut back the spring before. This process is absolutely necessary to keep the top of the tree down and headed in to the proper size.

Upright Cordon Plums, 18 inches apart, first season.

Pruning Directions for Specific Dwarf Forms

GENERAL RULES

These general rules apply to all the following forms:

First—When the tree has been planted in the fall, except in the semi-tropics of the South, **no pruning is to take place till the following spring, before the buds start.**

Second—In all pruning with the knife, make a clean, somewhat slanting cut just above a good thrifty bud: if wood is left on above the bud, there being no growth above it to draw the sap, it dies, and decays down into the heart of the live wood below the bud and may cause trouble. On page 10 is shown the proper cut, although it is a little too far from the bud. In pinching back, pinch about ¼ inch above a bud.

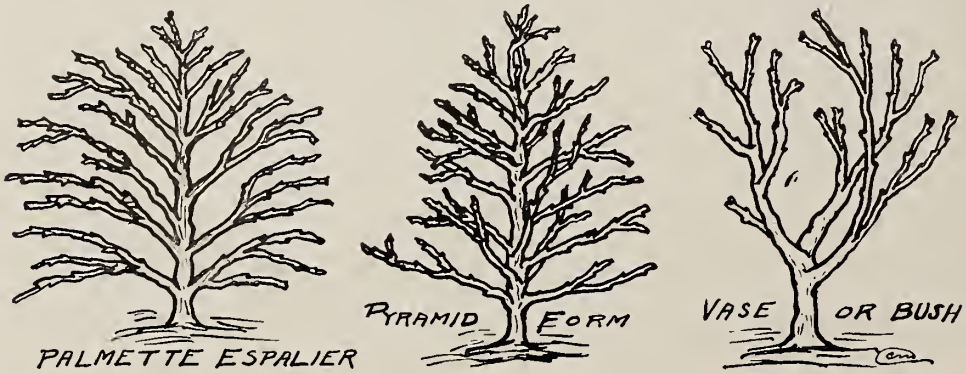
Third—In all these directions the term "leader" is applied to each branch of the tree, no matter what the form, which is a part of the framework of the tree, whether it be the one branch of a simple cordon, or one of a "U", or an arm of an espalier, or one of the framework of your bush or pyramid. In each and every form, these leaders are allowed to grow unchecked during the summer, but the side shoots from them are kept pinched back during the summer as described on page 7. The next winter or early spring, these leaders are "winter pruned" back to whatever length you desire. Remember as stated on page 7, these leaders may be pinched back in summer to force out side shoots if these do not appear without this checking.

Fourth—In all forms where a certain height is desired, like all forms of the upright cordons, bush and pyramids, when you trim back the leaders in March, leave as much of the leader on as you wish in order to give the tree the additional height you want it to attain this year; after the tree has nearly as much height as you wish it to have, thereafter cut the leaders right down to within an inch or so of last spring's trimming, thus keeping the tree just as you want it in height. If the tree is strong you may leave more wood; if it seems a little weak, trim a little closer to induce wood growth. Bear always in mind the statement on page 7—**"Summer pruning restrains growth and causes production of fruit, while on the contrary winter pruning causes increase of growth and production of wood."**

I might say right here that the "Authorities" differ widely in regard to this matter of pruning, especially in regard to the summer pruning. Some advocate even leaving the first summer pruning till early in August; this was done at first in the Experiment Station dwarf orchard here, and the result was that it stimulated late summer growth which did not ripen well for winter. Then, it necessitated knife work instead of the simple pinching with the thumb nail, and disfigured the trees. I believe the method given above is the safest to follow.

THE BUSH FORM

The Bush Form. If your tree is two or more years old it will be more or less branched; if these branches come about as you wish them for the head, keep such as you wish, cutting them back about half or two-thirds their length, making a slanting cut, just above some bud. This bud will shoot out and become a continuation of the pruned branch, forming the leader; side shoots will come from it and probably also from the lower part of the old branch; all these side shoots both on the old branch and on the new growing leader, keep pinching back during the summer as directed on page 7. If the tree is not well enough furnished with branches to form a head, trim back all branches to the lowest bud next the main stem, also cutting back the central leader if there be one, to within a bud or two of its base, and thus compel it to throw out a new set of branches or leaders, of which the terminals will not be checked during the summer, any side shoots from them, however being pinched back as described on page 7. If your tree is a one year old it will be just a straight whip; cut it back to about 8 inches from the ground and of the branches that start out retain such as you desire for a head, cutting out all the others that may start. You will probably retain 3 to 5



buds, and they should be as evenly distributed about the stem as possible. Each of the branches of the head becomes a "leader," and is pinched back in summer and pruned in March as described on page 7.

These leaders—which all the time, remember, are the branches of the bush—must be allowed to re-branch as the tree grows, to make a heavier or closer head. To do this select a side shoot at any point where you want another branch or leader, and let it grow unchecked instead of pinching it back; it becomes another branch or "leader" and is thereafter treated as such.

It is quite likely that the leaders of strong growing varieties will need pinching back in summer; no one can tell you in inches just what to leave or to remove; your own good judgment will have to tell you in each individual case; no directions can give more than general rules, and the gardener must apply them with the same discrimination that is needed in about every operation of life.

Early Harvest Bush, first season. Has formed fruit buds.

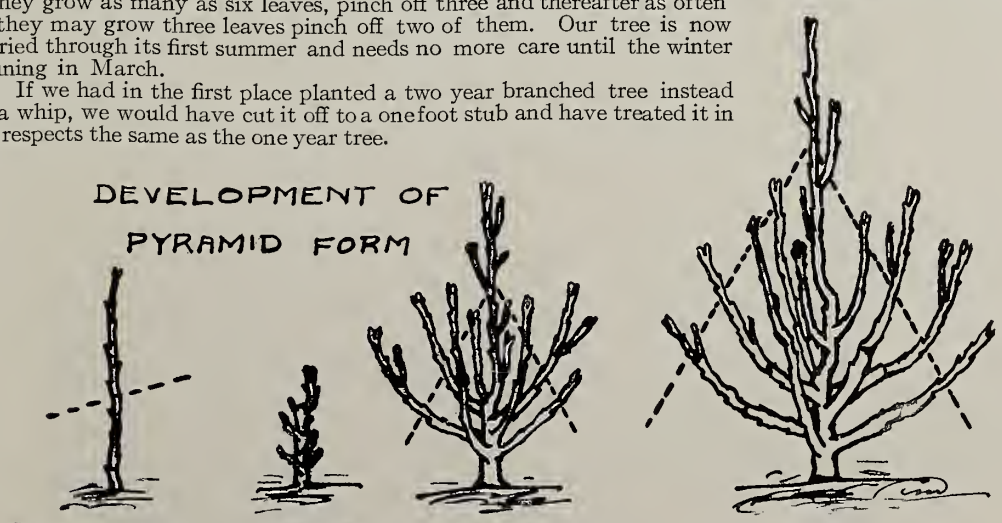
The process of pinching back the side shoots must take place each year. In this respect each tree will require a few minutes of your time, possibly three or four times during the growing season. If you are at all interested in your garden horticulture you will very easily get the habit of watching the young side shoots on the branches of the bush to see if they have grown enough to require pinching back. If the fruit spurs in time become too numerous, remove as many as necessary at the time of the early spring pruning.

Some varieties may grow straight branches the first year planted, with few or no side shoots to be taken off. In this case let the branches grow at will the first year. Next spring cut them back one-half or two-thirds their length the same as indicated before. The second summer's growth will produce side shoots without fail, and these will be treated by pinching back just as already described. This will induce fruit buds which should produce fruit the following summer, in this case the third summer after planting.

TRAINING THE PEAR TO A PYRAMID

We will follow a dwarf pear tree through the pruning management required to give a good pyramid shape. If starting with a one year whip, in the spring before the buds start cut it off a foot from the ground, or shorter if the tree seems a little weak. The buds on the standing stub will develop into side shoots. The upper one must be made the vertical leader of our tree. To force the growth into this shoot, pinch off the ends of all the other side shoots. But there may be a tendency for the upper side shoots to grow strongest and the lower ones weakest, while we desire just the opposite state of affairs, the bottom shoots strongest: and the upper ones shortest. Therefore we will pinch back the uppermost branches early in the growing season; the shoots just below will have their ends pinched off a little later, and as the season advances the lowest branches will finally be pinched back last of all after we have left them alone long enough to give them the most strength. Leave five or six inches of clear trunk between the ground and the lowest branches, by rubbing off unnecessary buds and shoots. These branches, which we have been controlling to give a pyramidal shape to the tree, are all leaders. As noted previously, the general rule is to allow leaders to grow unchecked in summer and to cut them back only in winter. In this case, however, though we let the vertical leader grow at will, it is often necessary to pinch back most of the lateral leaders once during the summer to make their growth conform to the shape desired. The side shoots which may grow on the lateral leaders are to be pinched back to further repress wood growth and to induce formation of fruit buds. If these side shoots grow rather slowly, pinch their ends off late in June whatever their length may be. But if they grow as many as six leaves, pinch off three and thereafter as often as they may grow three leaves pinch off two of them. Our tree is now carried through its first summer and needs no more care until the winter pruning in March.

If we had in the first place planted a two year branched tree instead of a whip, we would have cut it off to a one foot stub and have treated it in all respects the same as the one year tree.



Spring when planted — 2–3 weeks later — A year later — 2 years old

Shows how cutting to a bud forces that bud to develop into a branch. In this figure the cut should be shown a little closer to the bud. Note that the branch takes the same direction as the bud. Acting on this principle, you can develop a branch in any direction desired.

The second year's pruning is nearly a repetition of the first year. Consider the main or vertical leader of the tree, and in March cut off one-half or two-thirds the growth it made the first year. Make this cut at a bud or branch which will continue the upward growth of the vertical stem of the tree. In summer there will be a new contribution of lateral leaders that grow out at the top of the tree above the lateral leaders which started the summer before. And in this case also these are, when necessary, pinched back once to control their length, so as to retain the pyramidal form of the tree. That is, the shortest lateral leaders must be kept at the top of the tree, letting the lower ones be longer, till at the bottom of the tree we have the longest branches of all. The side shoots on all leaders are pinched back same as the first year, and this must be done every summer.

Every spring cut back the lateral leaders a little, being sure to do it in such a way as to give the tree the symmetrical form of the pyramid. Also cut back the top vertical leader of the tree half its previous year's growth to force new side branches above those grown the previous year. The diameter of the pyramid at the bottom should be about one-third the height. After a few years the size of the tree may be controlled by the extent to which the lateral leaders are shortened at the dormant pruning, and the extent to which the vertical leader is cut back.

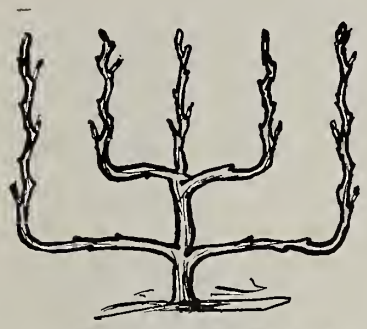
TRAINING TO PALMETTE FORM

The palmette is an espalier form and must be planted against a building, fence or trellis, or else staked for support and training.

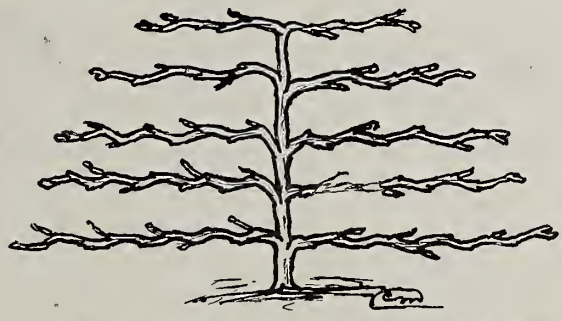
When the tree is planted trim it to a whip if it is not already one. Cut it off twelve or fifteen inches from the ground, cutting to a bud which is to continue the upward growth of the main trunk or central leader of the tree. Also as near the point as possible to which the tree was cut back, select, of all that grow, two side shoots on opposite sides to form the lowest pair of lateral leaders, (see cut), which should be trained upward obliquely, not too near a horizontal direction. The other shoots starting from the stub should be removed, and the butt of the tree kept clean. This is the only pair of lateral arms to be formed the first year, all other side shoots on the vertical leader as well as on the oblique leaders being pinched back. [To do this, when young side shoots make six leaves pinch off three leaves and thereafter as often as three new leaves are formed pinch off two of them.] The tree will need no other management the first summer unless the two oblique leaders should seem to grow very much slower than the central leader. In this case pinch off the end of the central leader, and this repression should give more impetus to the growth of the lateral arms. The second spring, before the buds start, cut off the previous year's growth of the central leader to a bud ten inches above the pair of lateral arms started the first summer. Of the buds which start to grow where the central leader is headed back, select one to continue the upward growth of the center of the tree, and two to be trained as a second pair of lateral leaders, in line above the lower pair grown the first year. Pinch back all other shoots, and if they are too numerous remove some entirely. The procedure this second summer will be a repetition of that followed the first season. The summer pruning of side shoots on all leaders must be practised every year. Thus we secure an additional pair of lateral arms each successive year, until we have four or five or six pairs. The lateral arms will be about ten inches apart, one above the other on each side of the tree, the bottom pair being at least a foot from the ground. Each spring the leaders are all cut back part of the previous year's growth, this being done so as to retain the triangular shape of the tree, with the shorter lateral leaders above and the longer ones below. After a few years the size of the tree is controlled by the amount of heading given the leaders. Whenever shoots start out which are not wanted, or which crowd, they are removed.

Pear at close of first season's training to palmette form.

Possibly the first pair of branches in the accompanying illustration should be a little nearer the ground. We hope next year to show another pair equally well grown.



CANDELABRUM ESPALIER



MANY ARMED HORIZONTAL ESPALIER

The Many Armed Horizontal Espalier is formed exactly like the Palmette. Each of the lateral arms secured is to be managed exactly as a horizontal cordon. The arms may be about twelve inches apart for large pears or apples, and eight inches apart for small pears. Summer prune thoroughly each summer, and at the dormant pruning cut back as much of the previous year's growth of leaders as desired.

The Candelabrum, or Palmette Verrier, is trained in much the same manner as the simple Palmette. Two or three, or sometimes even four pairs of lateral arms may be grown, by securing one new pair each year till the tree is completely formed. The center leader is not cut back so far at the very beginning as in the case of the simple palmette. When all the lateral leaders have been formed and been bent vertically, they should be about ten inches apart. The outside vertical branches should be trained a little longer than the inner ones and the central leader.

TRAINING THE PEACH TO FAN SHAPE

When the tree has been planted, and if possible, before the buds start, trim it up to a whip if the tree is not already a whip, and cut the tree off eight or ten inches from the ground. This will force young shoots into growth near the top of the remaining stub. Such shoots as are not wanted should be trimmed off, but before discarding any of them, select the ones favorably located for leading off radially in fan shape arrangement. We want four or five of these leaders on each side of the tree, making eight or ten arms of the fan in all. It may not be possible to get all these radial arms started at once, but use as many as lend themselves to the fan mode of training. When these arms become long enough to require it, fasten them in place against the trellis. Pinch back all side shoots on these arms when necessary, the same as already indicated for side shoots on all leaders. If any of the leaders tend to rapid growth at the expense of others, check them by pinching off the ends of the terminal growth. Keep the butt of the tree free from all growth not wanted in our training management. The second spring, before the buds have started, cut back all the leaders secured the first year, leaving only six or eight inches of the first year's growth. These branches will throw out shoots near their base, and as many of these as needed are kept and allowed to grow as leaders so as to fill in gaps between the few leaders obtained the first year. Shoots not needed for new leaders will be pinched back like all side shoots growing on leaders. If too many side shoots crowd together cut out as many as necessary. When all the leaders become well started, keep them of as uniform growth as possible by pinching off the ends of those growing too fast. Summer prune all side shoots annually and winter prune early each spring. Remember fruit buds form on this year's wood and bear next year. Therefore, at the time of the spring pruning, as the tree becomes larger, cut back the leaders a little to force growth of side shoots. These will be pinched back as usual, except a few on each leader—two or three or four or even more, according to the size of our tree—which are allowed to grow into side branches to fill up gaps between leaders and also to bear fruit buds. By following this method the tree may be furnished with the young wood necessary to produce the following year's fruit. Whenever any arm ceases to bear or forms fruit buds only near the tip, cut it back to a shoot or bud near the base; and allow that shoot or bud to grow into a new arm to replace the old one.

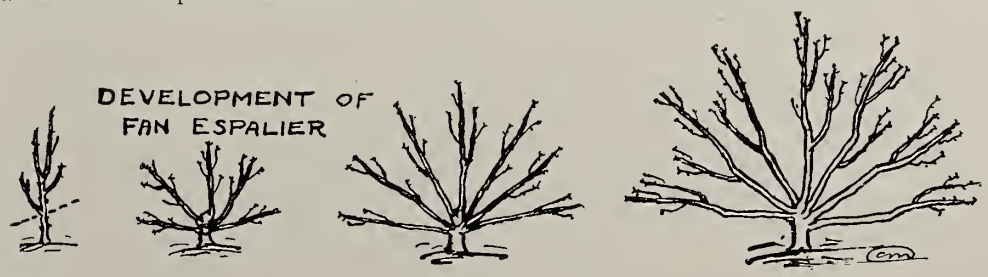


Fig. 1 Fig. 2 Fig. 3 Fig. 4

TRAINING TO FAN ESPALIER

Trim the tree we send you about as indicated by the dotted line in Fig. 1. Figure 2 shows about as it should appear the fall of the same season, and Figs. 3 and 4 as it should appear at the close of the two following seasons. These two seasons the tree may show some fruit.

CORDONS

The upright cordon. This is the simplest cordon of all. It is a single vertical stem with no branches, having only leaves and fruit spurs along its entire length. To secure this, plant your tree and cut it back to within 8 inches of the ground. You need feel no heart burnings at this apparently severe treatment. You can truthfully say to the tree, "This hurts me more than it does you." This severe heading back does not harm the young tree in any way, and it is the best method in the end for starting any of the cordon forms.

So then, cut the tree to an 8 inch stub. Buds will start out on this stub; and one bud should be retained as the leader and allowed to grow upward unchecked, the others being rubbed off. The leader may throw out side shoots. These should be pinched back to form fruit spurs as follows: when a shoot has grown six leaves, pinch off three; and as often as three more leaves are pushed out from the same shoot, pinch off two of them.

If side shoots do not start from the leader in the early half of the growing season, they may be forced by pinching off the end of the leader.

One-half or two-thirds of the preceding year's growth of the leader should be cut away early in the following spring. Do this every spring until the cordon is high enough, probably not over six or seven feet. Thereafter each spring cut the leader back to the first bud above the previous year's pruning. At the time of this dormant spring pruning, remove any superfluous spurs or short branches which may have developed late in the previous season.

The oblique cordon. The essential method of management of all cordons follows closely that required for the simple upright cordon. The oblique cordon is practically an upright cordon which early in the growing season has been bent near the ground to the required angle. It may be held in position by tying to a stake set at the desired angle. In this and all the following forms, the butt of the tree, below the bend, should be kept free from all growth.

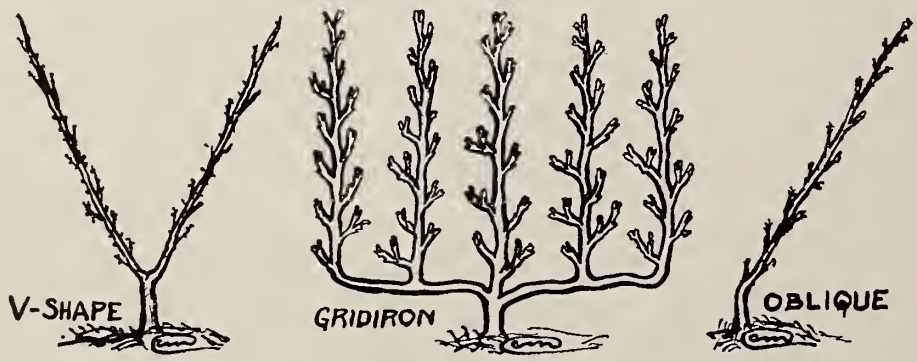
The horizontal cordon. This is started like an upright cordon, and early in the growing season bent over so that the length of the cordon will be about fifteen inches above the ground.

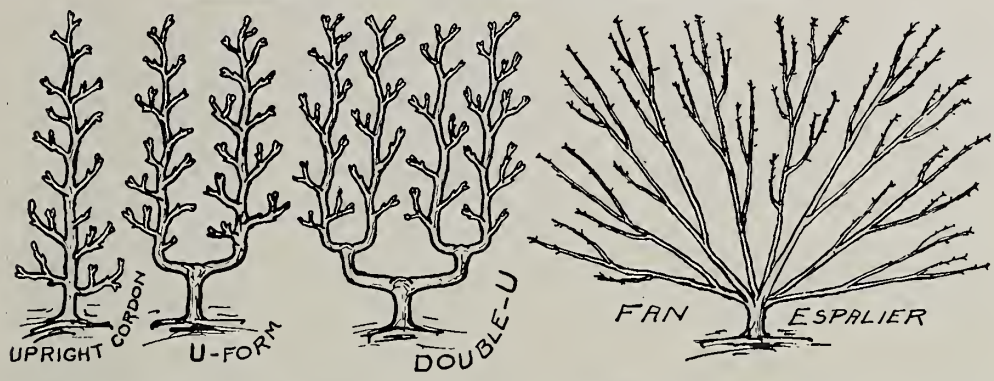
The V-shaped cordon. Stub off the tree eight or ten inches from the ground. Of the shoots which start nearest the top of the stub, select the two most favorably located to train up at an angle, one on each side. Remove all other shoots and keep the butt of the tree clean from all new growth. Manage each arm of the V like an oblique cordon.

The U-form. This is started like the V-shape, except that the two arms are trained off horizontally and then turned vertically upward about ten inches apart. These arms will be tied to the trellis or wall till they have become ripened and set in this shape. Each vertical arm is then treated like an upright cordon.

The double U-form. This is produced by training two U-forms from the same trunk as shown in illustration on page 13.

The double-armed horizontal cordon. Stub off the tree fifteen inches from the ground. Select two shoots nearest the top and lead them off horizontally, one on each side, as shown in figure at head of this page. Manage each arm like the single horizontal cordon.





DISTANCES FOR PLANTING DWARF FRUIT TREES

There are as many minds in regard to the proper distances to plant dwarf trees of the bush and pyramid forms, especially, as there are planters; on the cordons and spreading espaliers there is more agreement. For the wide spreading espaliers of peach, apricot and nectarine, from 15 up to 18 or even 20 feet is probably correct. For apples most recommend 20 feet and for strong growers even to 25 feet. From 16 to 20 feet is the usual distance for plum, cherry and pear.

For the single cordon, 18 inches is ample and 15 inches allowable. For the multiple cordon forms such as the "U," double "U" and other forms where several arms grow upward from the same root, 10 or 12 inches between such vertical shoots is sufficient. Of horizontal cordons Fish says, "May be planted from a yard to 4 or 5 feet apart, and it is a good plan to graft the head of one tree into the root end of the other when it reaches it, thus making a continuous rope of fruit from one end of the line to the other."

Many writers give the same distances for the pyramid and bush forms; others allow a greater distance for the pyramid, and in this it seems to us they are right. The following are the opinions of different English writers on the proper distances for bush and pyramid forms. Fish says, "Distance between pyramids, again, may range from 5 to 15 feet, according to the sizes;* and similar distances will be found useful for bush fruits." McIntosh gives 5 feet, adding, however, "If root pruned every three or four years should they show symptoms of over vigorous growth, this will be found ample space for them." F. E. Green, for commercial planting advises 6 feet. Drury says the distance "may range from 8 to 15 feet and though opinions differ as to the distance they should be planted, it will be found that 9 feet each way is a fair distance and is recommended by several well known and practical fruit growers as being the best medium between 6 and 15 feet, the former being too close, the latter too far." The writer recommends the same distance, 9 feet, for plums; and this distance would also probably be a safe one for cherries, as most writers give plums the wider space of the two. For peaches in bush form, de Bonneferes gives 5 feet and adds, as previously quoted, "they will produce you a world of fruit by reason of their multitude." John Abercrombie says, "15 feet may be sufficient." Thomas Rivers names 4 feet for bush apples. Marshall says of dwarf apples, "placed at 8 or 9 foot distance, pruned and kept in easy manner, they make a fine appearance and produce better fruit and in greater quantities than when they are in espalier." Louders says, "Dwarf apple trees may be planted very closely as they occupy but little room." Of the American authorities, Dr. Thornton gives 9 feet for cherries and pears, 9 to 12 for plums, and for apples 4 to 8 feet according to natural habit of growth. Thomas gives dwarf apples 8 to 10 feet, pears 12, cherries 7½ to 10, or even as close as 5 or 6 feet in the garden, plums 8 to 10, quinces 8 to 12 and peaches 8 or 9 feet apart, each way. We ourselves, have planted our bush apples at 6 foot and also at 9 foot intervals and have tried a few pyramids 6 feet apart. Understand, all the distances named in this paragraph apply to the bush form and some of them to pyramids.

*By "sizes" I take it he means the habit of growth of different varieties whether strong or weak growers naturally.

ROOT PRUNING

The above will indicate great latitude in planting the bush form of the dwarf apple. We must bear in mind that where the extremely close distances are permitted, **it always contemplates the root pruning** of the tree, whenever the summer and winter prunings do not hold it sufficiently in check. Some give directions for root pruning which is very elaborate and for a large planting, would be very expensive; others, however, who have had a wide experience describe methods which entail but little labor. The process we give is one that Dr. Thornton has found to answer his purposes.

He says, "When we find our little tree obstreperous, we give it the first lesson by curtailing its tap root; this is accomplished by forcing a sharp spade obliquely under the roots till the tap root is severed. If that lesson is not effectual, we administer the next dose the next season, by forcing a sharp spade perpendicularly into the ground at varying distances from the tree, according to its size, and dig in a circle half way round the tree, not turning the soil, but merely cutting the superficial roots. The next year repeat the dose half way round the other side of the tree. Sometimes we dig up the tree entirely, trim the roots, and return it back to where it had been growing; this is best done in the fall or winter, and does not interfere with the fruiting the next season."

Showing first year's training of upright, oblique and horizontal cordons, 18 inches apart.

SERVICE OR PRICE

The merchant today has two fundamental inducements to offer in making sales—service and price: that one who relies on the latter only to induce sales must give his whole thought to the making or buying of the article he sells, to make it or get it at the very lowest cost at which human ingenuity can produce it. This course necessarily puts quality as a last consideration. Without question these goods may be worth what they cost—that is not the argument—but are they in the end most economical?

The merchant who spends his time and thought on getting the goods which are best made, best adapted to the wear they are called upon to stand, who studies the needs of his customers and selects his stock to conform to those needs, he not only sells goods, but he sells service along with them. He buys or makes articles that he can stand back of, and **then he does stand back of them.** He becomes an expert in his business and in the long run this man will get hold of the best business. He does not offer something for nothing or for less than it is worth, but his recommendation of an article always carries weight with it.

Thirty-three years ago I came into this business which was first started in a very small way in 1839 by the eminent pomologist, J. J. Thomas; and of the six men who in all these years have been proprietors, I have had the longest connection with the business, besides being the first to start commercial orcharding on our Geneva Nursery farm. During these years I have, I believe, been able to give a little more each year in the way of service; and today with two grown sons to help, I know we are giving better service than ever before in the entire history of our business.

So far as our customers are concerned, the critical period for the trees is from the time they are dug till they are packed, ready for shipment. There are many times during this period when there is liability to mixture and exposure except with the greatest care and closest oversight. During this period our trees are under the personal care of a very competent foreman or of one of my sons or myself. We are not "big" nurserymen, growing only moderately for our own trade, so that we can give this close oversight which the larger grower cannot give. Were we one of the firms who advertise so many hundred or thousand acres of nursery stock, we should have to turn over a great deal of this detail to our friend, Signore Antonio Argoletto Botticelli, who gets $1.50 per day and appears on our pay roll as "Toney." Now Toney would do his best, but really he neither knows so much about it nor cares so much for the ultimate results, as does either of the four gentlemen mentioned above.

In the matter of prices—we intend to make them fair, but they will never be the "lowest"; we should be ashamed to be the ones who offered the most inducements in the mere matter of price. And frankly, Mr. Tree Planter, the nurseryman who offers to sell you 5–6 ft. apple trees for eight or ten cents each and pay the freight, can hardly afford to throw in many chromos in way of extra service.

Nurserymen are perhaps the best cursed men in business today. If the truth were known, however, probably not one in a hundred of the crimes or errors charged to the fraternity is intentional. The great majority of the disagreeable things that happen are not the result of an intent to defraud but are from a failure to fully appreciate what these errors mean and to closely guard against them.

If there is any business where honest, expert service is needed, it is such as ours where the buyer is obliged to place himself as unreservedly in the hands of the nurseryman, as the client does in the hands of his lawyer. In addition to our experience as nurserymen we place at your service the experience of a quarter of a century of successful fruit growing. In many directions we feel competent to make suggestions of value both to those planting for the home garden and to those who are starting into commercial orcharding. Any suggestions we can give of value are yours for the asking, whether you become a customer or not, and you will find us just as ready to say "I don't know" to some of your inquiries, as to advise on those points where we feel competent.

COLLECTION PAGE

These Collections will help your choice of varieties and will SAVE YOU MONEY

These collections average only about hundred rates instead of the single rate which these small numbers would otherwise take.

There are two or three reasons why we can do this: with the exception of the high priced varieties included in each collection, they comprise varieties of which we have the largest stock and are hence more anxious to sell; then, too, we find that these collections tend to increase sales, as they are really attractive offerings composed of the best varieties, and those who buy them are likely to buy more than if selecting just here and there a tree or two. The weightiest reason, however, is that we can tie up these collections and get them all ready to pack before the packing season actually commences, thus saving labor at the busy season when minutes are almost worth hours at other times of the year. **Having them tied up ahead makes it impossible to change any of the varieties in these collections, so please do not ask it as we should have to refuse.**

Understand, we are not pretending to "give" you anything in these collections and specials, **only the opportunity** to avail yourself of prices for **just these selections** which we can afford to give, for the reasons stated.

In all these collections should we later in the season be sold out of any varieties, we should put in others equally good and as near like those omitted as possible. This would probably not be necessary, however, till near the close of the season.

All these prices are for standard trees unless otherwise stated, and by express f. o. b. Geneva, except such as are sold postpaid.

SOLD ONLY FOR CASH WITH ORDER

Delicious Apple Collection

1 **Delicious**	$ .50
1 Baldwin	.30
1 Northern Spy	.30
1 R. I. Greening	.30
1 Stark	.30
1 Winter Banana	.30
List Price	$ 2.00
Collection Price	$1.35

Bosc Pear Collection

1 **Bosc**	$1.00
1 Bartlett	.35
1 Flemish	.35
1 Kieffer	.35
List Price	$2.05
Collection Price	$1.40

Abundance Peach Collection

1 **Abundance**	$ .30
1 Carman	.20
1 Early Crawford	.20
1 Salway	.20
1 Stevens	.20
1 Stump	.20
List Price	1.30
Collection Price	$1.00

Dwarf Willett Peach Collection

1 **Dwarf Willett**	$ .50
1 Dwarf E. Crawford	.30
1 Dwarf Elberta	.30
1 Dwarf Carman	.30
1 Dwarf Fitzgerald	.30
1 Dwarf Niagara	.30
List Price	$2.00
Collection Price	$1.40

BOSC SPECIAL

Mailing Size, 2 to 3 ft., Postpaid, 40c each
f. o. b. Geneva by Express, 25c each

These are fine little trees and a real bargain.

Scarlet Beauty Collection

1 **Scarlet Beauty**	$.50
1 McIntosh	.30
1 Stayman	.30
1 **Stearns**	.50
1 Winter Banana	.30
List Price	$1.90
Collection Price	$1.25

This and the Delicious collections on one order, for only $2.50.

Princess Christine Cherry Collection

1 **Princess Christine**	$ .50
1 Early Richmond	.40
1 Montmorency	.40
1 Ostheim	.40
List Price	$1.70
Collection Price	$1.25

McKay Peach Collection

1 **McKay's Late**	$.40
1 Champion	.20
1 Elberta	.20
1 Fitzgerald	.20
1 Niagara	.20
1 **Willett**	.40
List Price	$1.60
Collection Price	$1.25

Palatine Plum Collection

1 **Palatine**	$.50
1 Burbank	.40
1 Fellenburg	.40
1 German Prune	.40
List Price	$1.70
Collection Price	$1.25

A great bargain—some of these are 6 ft. trees.

June Collection of Raspberries. Postpaid

6 **June**	$.75
6 Cuthbert	.30
6 **Herbert**	.60
6 Ruby	.30
List Price	$1.95
Collection Price	$1.25

St. Regis Collection of Raspberries Postpaid

6 **St. Regis**	$.75
6 Cuthbert	.30
6 **Herbert**	.60
6 Ruby	.30
List Price	$1.95
Collection Price	$1.25

Blowers Collection of Blackberries, Postpaid

6 **Blowers**	$ .50
6 Ancient Briton	.30
6 Mersereau	.30
6 Snyder	.30
List Price	$1.40
Collection Price	$1.10

Rainbow Collection of Raspberries, four different colors, List Price, $2.05, Collection Price, $1.25, Postpaid

6 St. Regis, red, 75c; 6 Plum Farmer, black, 30c; 6 Royal Purple, 40c; 6 Golden Queen, 60c

Lake Side Grape Collection, Postpaid

4 Black Varieties.
4 Red Varieties
4 White Varieties
Described on pages 36 and 37.

List Price	$2.55
Collection Price	$1.75

Dessert Grape Collection, Postpaid

1 **Campbell Early**	$.30
1 Delaware	.20
1 **Winchell**	.30
List Price	.80
Collection Price	.60

Arbor Grape Collection, Postpaid

1 Catawba	$ .20
1 **Campbell Early**	.30
1 Delaware	.20
1 Niagara	.20
1 Moore Early	.20
1 **Winchell**	.30
List Price	$1.40
Collection	$1.00

FRUIT DEPARTMENT

DWARF APPLE TREES

Our Dwarf Apple Trees will be mostly two year old trees more or less branched, and will run about 2 to 3 feet in height. However, there will be occasionally trees under 2 feet and over 3 feet. We guarantee no specific heights of dwarf trees of any variety.

In the dwarfs we also reserve the right to fill with one year old trees if out of two year old. The one year old dwarf trees can be readily distinguished from the older trees, as they are generally straight whips without branches.

The bush form is the one in which perhaps 95 per cent of the trees we sell are grown, probably because if let alone the dwarf tree grows into a bush naturally. Prof. Waugh remarks in his book, "bush trees for business, cordons for fun." The cordons will surely give you a lot of fun. You can grow a cordon literally into any shape you want. Then for the small city lot it's a great thing to be able to grow an apple tree on two or three square feet of ground.

The dwarf tree will produce the same fruit as the standard of the same variety, but probably larger and better.

I take the liberty of quoting the following from Prof. Waugh in his book "Dwarf Fruit Trees." Prof. Waugh is conceded by horticulturists to be as high an authority on dwarf fruit trees as there is in the country. His statements seem to me to be entirely conservative and deserving of the most serious consideration.

"Dwarf fruit trees have not been very largely grown in America, but have been much more widely used in Europe. This statement holds good either for commercial plantations or for private gardens. They are coming into more common use in this country, because, in both market orchards and amateur gardens, our pomology is coming to be somewhat more like that of Europe. Our conditions are approaching those of the Old World, even though they will always be very different from those of Europe in horticultural matters.

Dwarf fruit trees are particularly valuable in small gardens; and small gardens are becoming constantly more popular among our urban, and especially our suburban, population. Fruit of finer quality can be grown on dwarf trees, as a general rule, that can usually be grown on standard trees. Every year there are more people in America who are willing to take any necessary pains to secure fruit of extra quality. This remark applies particularly to amateur fruit growers and to owners of private estates who grow fruit for their own tables, but it is no less true of a certain class of fruit buyers, especially in the richer cities. Although $3 a barrel is still a high price for ordinary good apples, sales of fancy apples at $3 a dozen fruits are by no means infrequent in the city markets every winter.

In this respect also we are approaching European conditions. In the markets of the continental capitals in particular, fancy fruits are frequently sold at prices which seem almost incredible to an American. Single apples sometimes bring fifty cents to a dollar, and peaches an equal price.

Now if there is anywhere within reach a market for apples or peaches at $3 a dozen specimens—and there unquestionably is—then it will pay to grow fancy fruits with special care to meet this demand. This kind of fruit can be grown better upon dwarf trees than upon standards in many cases, if not in most. At least such is the conviction of the present writer. Moreover, this has been the experience in the old country.

With such facts in view there seems to be a possible future for dwarf fruit trees, even for commercial purposes. Their present utility in amateur gardens and on wealthy private estates can not be questioned."

Dwarf apple in bush form, the easiest way to train a dwarf tree, and one that probably gives as much fruit for the same bearing area as any form of training. This cut, shown by courtesy of Prof. Waugh, is that of a Bismarck apple, first year planted, 22 inches high and bearing four fruits. Plant about six feet apart each way.

Prices of Dwarf Apple Trees, except as noted, cash with order, 50c each, $5.00 per doz., $35.00 per 100.

Early Varieties

Early Harvest—This and the Sweet Bough are the two standard early varieties representing the "Harvest Apples" that we used to steal when we were boys. A large, high quality, yellow apple. July, August.

Early Strawberry—A small apple, of good quality, handsome, dark red, striped. August.

Golden Sweet—A good sweet early variety for home use. Medium size, yellow. Middle of August till last of September.

Red Astrachan—Medium size, red, striped, with a heavy bloom; flesh very white, juicy, quite acid and fine quality. A fine early cooking variety. Late July to September.

Sweet Bough—Large pale yellow, very tender, sweet and juicy, perhaps the most popular of the old early kinds. August and early September.

Yellow Transparent—A very light yellow, almost white; good sized and probably the earliest bearing variety of the fifty odd kinds listed here. Late July and August.

(Note—This is one of the really valuable Russian varieties imported by the U. S. Department of Agriculture in 1869. Its quality is not up to either Early Harvest or Sweet Bough, but it is good, and about between the two in acidity; but it is such an early bearer of heavy annual crops of wonderfully perfect fruit, that it has become one of the most widely disseminated of the more recently introduced varieties, and seems to hold its own in all localities. Recommended for home use, and for markets, within shipping distance calling for early fruit. W. L. M.)

DWARF APPLE TREES—Continued

Prices of Dwarf Apple Trees, except as noted, cash with order.
50c each, $5.00 per doz., $35.00 per 100.

Fall and Early Winter Varieties

Autumn Strawberry—A pinkish, medium size apple of very good quality, streaked with carmine. September to December

Bismarck—A very large apple, striped with light and dark red. An extremely early bearer. October to early winter. **(See cut of Dwarf Bismarck page 16.)**

Constantine—A large bright red apple, heavily striped. Particularly suitable for culinary use and market. September to November.

(Note—This variety we have from buds taken direct from the tree in bearing on the grounds of the N. Y. State Experiment Station at Geneva. It is so similar in every way to Alexander that it may be said to be practically an improved Alexander, in that it is a heavier average cropper with a larger percentage of marketable fruit, begins ripening a little later and continues longer in season. I have watched this particular tree for several years and can assure my customers who are inclined toward Alexander, that Constantine seems the better variety. W. L. M.]

Fameuse (Snow)—Below medium size, but a high quality apple, bright red, somewhat striped. The tree is a crooked grower. October to mid-winter.

Gravenstein—Large size and of fine quality; striped with light and dark shades of red. Late September to early November.

King—A large, striped red apple, one of the best in quality. October to January. **This apple probably ranks fourth in quantity grown in New York State.**

McIntosh—Above medium size; clear whitish-yellow or greenish, washed and deeply blushed with bright red and striped with carmine, highly colored specimens becoming dark purplish red, overspread with a thin lilac bloom. Flesh white, sometimes veined with red, firm, fine, crisp, tender, very juicy, agreeably aromatic, perfumed, sprightly sub-acid, becoming mild and nearly sweet when very ripe; **very good to best for dessert.**

(Note—If you were to ask me for the highest quality apple grown today, I should answer, "McIntosh." It's hardly worth while to try to describe a flavor; take the best apple you have ever eaten, imagine it a little more crisp, a little more tender, and a little finer flavor—this will come nearer the McIntosh than any description we can give. Beach's "Apples of New York" (1905) says, "It has not been sufficiently tested to demonstrate fully its value for commercial purposes, but it is regarded by many as one of the most promising varieties of its class for general cultivation in New York." If Prof. Beach were writing now I believe he would recognize the very prominent place that McIntosh has been making for itself in the commercial markets. during these last ten years. It is today a leader in price in our eastern markets, for the fall and early winter trade. I keep McIntosh for my personal use till January first, in my house cellar, and have shipped it from storage clear into April, and seen it bring big prices. The old McIntosh trees on our farm during the past thirty-three years that I have known them, have failed only a very few years to bear good to heavy crops. I can definitely recall but one or two failures.

If you plant but a single apple tree, this should be the one. W. L. M.)

Oldenburg (Duchess)—A medium sized apple with splashes and stripes of bright red and crimson, good for culinary use. Extra hardy, and does well over a very wide territory. Late August and September.

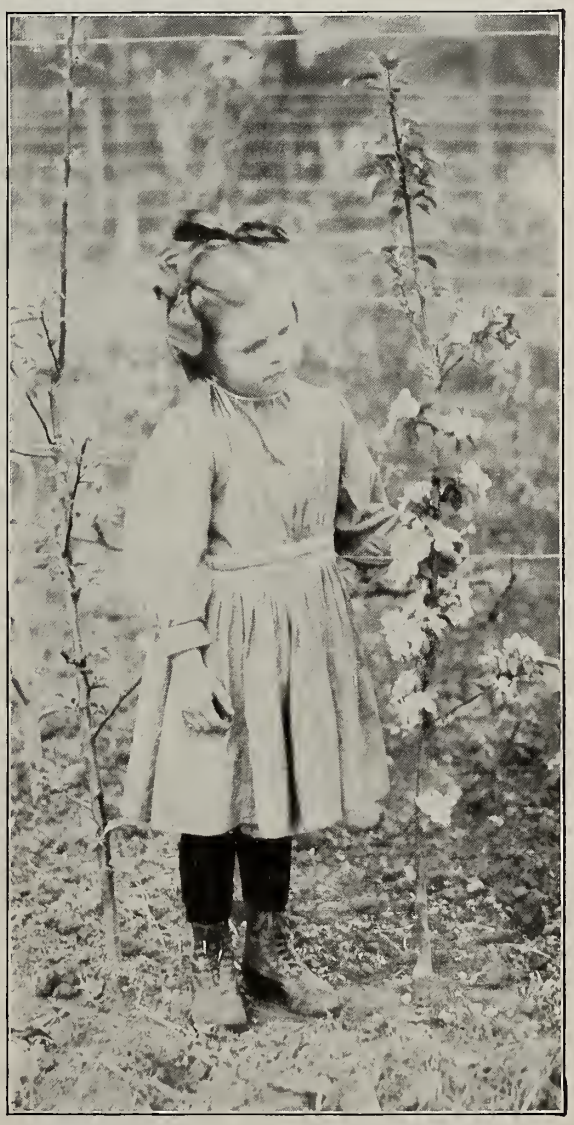
SCARLET BEAUTY—The Big Red Apple

PRICE, 75c each, $7.50 per doz., $50.00 per 100.

It is only about once in a lifetime that the opportunity comes to a nurseryman of getting hold of such a prize as **The Big Red Apple.**

A cross between the Pearmain and Stone apples, and **a magnificent apple.** It is distinctly large without being coarse, of a vivid, brilliant, all over red—as handsome as a fine McIntosh and much larger. It is of fine quality, a regular and heavy bearer, and every admirer of **"The Big Red Apple"** will get it to absolute perfection in the **Scarlet Beauty.**

We think this will do extra well as a dwarf, and have this fall planted a small commercial orchard of **dwarf Scarlet Beauty.**



Upright cordon in bloom probably in second year after planting. From photograph by Professor Waugh.

DWARF APPLE TREES—Continued

Price of Dwarf Apple Trees, except as noted, cash with order
50c each; $5.00 per dozen; $35.00 per 100

FALL AND EARLY WINTER VARIETIES—Continued

Stearns—A late fall and early winter variety which has attracted very favorable notice during its test for several years on the State Experiment Station grounds. It is a handsome, bright red, good sized apple, mild sub-acid and of good quality, showing far more than usual those greatest qualities of all for a profitable apple, **regular and heavy bearing qualities. 75c each, $7.50 per doz.**

Twenty Ounce (Collamer)—This apple grows to very large size; it is yellow, splashed with bright red. Good for culinary use. September to early winter.

Wealthy—Large in size, but with tendency to smaller size as trees age. Attractively marked, with narrow red splashes. Very juicy and of high quality. October to January.

LOAD OF HILL'S CHILI PEACHES STARTING FOR THE CANNING WORKS.

The above is one of 130 loads of fruit that have been sent from our fruit orchards the past season made up as follows: 8 of gooseberries, 42 of cherries, 10 Bartlett and 20 Kieffer Pears, 12 Hill's Chili Peaches, 2 Berries and about 36 of Apples, aggregating over 180 tons of merchantable fruit.

Winter Varieties of Dwarf Apples

Bailey Sweet—Fruit above medium in size, and very good in quality. Deep red in color, slightly striped. October to January or later.

Baldwin—A large apple, juicy and of good quality. Bright red blush, striped with carmine. November to March or April.

(Note—This apple originated about 1740 near Lowell, Mass. It was known as the Woodpecker; also as Pecker, Butters, and later as Felch, Steele's Red Winter and variations of its final name of Baldwin, which was given it forty or fifty years later. It is the leading commercial apple of New York, New England, Southern Canada, Northern Ohio and the southern peninsula of Michigan. Prof. Beach estimates that over one-half of the apples produced in New York State are of this variety, although it was little planted here till about 1850. The original tree was standing in 1817, but had disappeared prior to 1832. A monument has been erected on the site of the original tree. W. L. M.)

Ben Davis—Above medium in size, mottled with clear dark carmine stripes. Ordinary quality, and a fine keeper. January to June.

(Note—This is the variety which the apostles of "High Quality" unite in cursing. To the man contemplating planting apple trees however, it is worth while perhaps, to note the fact that the man who has a bearing orchard of Ben Davis smiles at the hard things said against this apple, and keeps right on growing it! The Horticultural Professor should remember that the man who grows apples commercially does not expect to eat them himself—he grows them to sell, and it is a fact that this variety is a money maker. Right on my own farm if I were to choose between the Baldwin and the Ben Davis to plant extensively, I should choose the latter without hesitation as the more profitable variety of the two. W. L. M.)

Boiken—Large and of good quality. Bright yellow, often with pinkish red blush. November to March.

Delicious—A new variety introduced by the Starks of Missouri. We believe this will prove to be right in a class with Scarlet Beauty and McIntosh. **Delicious** is dark red, long and large. It is doubtful if any apple can be handsomer than a good, well grown Delicious. It is in season with Spy, but keeps better. The flavor is fine, a mild subacid, delicious for dessert and good for cooking purposes. The tree is evidently very hardy; originating in Iowa, it grows to perfection also in the extreme northwest apple regions, and it is proving good in the New England states and in New York. The variety seems well adapted to a wide range of country, since some growers claim to raise it profitably as far south as Virginia. **Price 75c each, $7.50 per dozen.**

Golden Russet—Above medium in size and very good in quality. Usually well covered with yellowish or golden russet, and often has bronze cheek. December to April or later.

Hubbardston—An apple above medium in size, and of high quality. Yellow, blushed and mottled with red. January to April or later.

DWARF APPLE TREES—Continued

Price of Dwarf Apple Trees, except as noted, cash with order
50c each; $5.00 per dozen; $35.00 per 100

The two rows of Napoleon Cherry Trees bordering a driveway up through the farm, less than eighty trees, have more than paid the taxes and insurance for the past twelve years.

WINTER VARIETIES—Continued

Jonathan—This apple is medium or under in size, but of very good quality. In color it is bright yellow, blushed with red and attractively striped with carmine. November to January or later.

Northern Spy—Large size fruit of high quality. Blushed with bright pinkish red, mottled and splashed with carmine. November to nearly the close of the season.

(Note—This originated as a seedling in this county about twenty-five miles west from Geneva, early in the 19th century. It began to attract attention, about 1840, and today stands third in the state in the quantity produced. It is distinctly a "highest quality" apple, in our estimation ranking next to McIntosh. It is a late, though uncertain keeper, has a very delicate skin, and should be handled with the utmost care. The tree is a very strong, large grower, and should be given plenty of room. Many regions grow good Spy with the one defect that it fails to attain the high color which it should have to bring the best returns. W. L. M.)

Opalescent—A large apple with quality good to very good. Pale yellow overspread with deep red, and very slightly streaked. November to March.

(Note—This is of recent introduction, and as seen at the State Experiment Station during the last few years, is proving to be a far more promising apple than was first supposed. It is at least worth a careful trial. W. L. M.)

Pound Sweet (Pumpkin Sweet)—A very large yellow apple, often with a slight brownish-red blush. Good for culinary use, especially for baking. October to January.

Rhode Island Greening—Above medium in size and very good in quality. Green, varying to yellow, sometimes with brownish red blush. October to March or April

(Note—The apple that dates back over two hundred years and is today producing more fruit in New York State than any other variety except Baldwin, deserves more than a passing notice. It originated as a seedling at a place called Green's End near Newport, where a Mr. Green kept an inn. It became known as "Green's Inn," and in other states as "Green's Inn apple from Rhode Island." This variety when first picked, and for several weeks thereafter when kept in common storage, is a rather moderate priced apple; but when handled right and placed in cold storage it has for years brought prices during the winter and spring, well up at the top. It is a prolific cropper and there are few varieties that will give a larger percentage of number one apples than this. This is one of the varieties that we have planted in orchard quite extensively. W. L. M.)

Rome Beauty—Medium size, sometimes becoming very large, and of fair quality. Yellow, more or less mottled with bright red and splashed with bright carmine. November to April or May.

(Note—Another apple that we are growing commercially. As good a keeper as Ben Davis, just as handsome, and better in quality. We have kept this apple in our nursery cellars till April with practically no shrinkage and in perfect condition. From our experience here it should be kept till late when the market is cleared up of the better red apples, when it will be readily taken at surprisingly good prices. It should be allowed to hang on the tree very late, which it will do with comparative safety owing to its long stem, which allows it to swing in the wind instead of breaking off. W. L. M.)

Senator—Size varies from below medium to large, and quality is high. Deep rich yellow, well covered with bright red, striped. November to February.

Spitzenburg (Esopus)—Below medium to large in size, and of high quality. Rich yellow, often almost entirely covered with bright red striped with darker red. One of the really great apples. November to March.

Stark—Medium to large fruit of fairly good quality. Pale green or yellow, more or less blushed or mottled with red, slightly striped with darker red. January to May or June.

(Note—This is a variety with many excellent features; the tree is one of the strongest growers there is, and bears annually good crops without the tendency to overbear. The fruit averages large, is smooth and uniform, and, having a thick, tough skin, is a splendid keeper. It is not up to Baldwin in quality and is an average low priced variety. For the man,

DWARF APPLE TREES—Continued

Price of Dwarf Apple Trees, except as noted, cash with order
50c each, $5.00 per dozen, $35.00 per 100

WINTER VARIETIES—Continued

however, who has not access to cold storage, it is an apple that he can put right in common storage and bring into the market in April and May and it will bring him better prices then than could be realized at picking time with far better and higher priced varieties. The **Stark, Ben Davis** and **Rome Beauty** are similar in that they are all medium to low in quality, all good, annual bearers, all handsome, all great keepers, and all will give the best results for the least care of any three varieties on our list. W. L. M.)

Stayman's Winesap—A medium to large sized apple; quality good to very good. Green or yellowish, often nearly covered with rather dull mixed reds, striped with carmine. December to May.

Sutton Beauty—Size medium and quality very good. Lively yellow ground color, well covered with attractive bright red striped with carmine. November to March.

Tolman—Below medium in size, quality from good to very good. Pale clear yellow, sometimes a little blushed. November to January.

Wagener—Medium to large in size and very high in quality. Bright pinkish red striped with bright carmine. November to February.

Winter Banana—New. Often very large, quality very good. Pale yellow with pinkish red blush. November to April.

(Note—This apple is considered by many as being beyond question the handsomest of all our varieties. It is a contribution from the "Hoosier" State, originating about 1876. The fruit is large—I have seen them from Oregon as large as the largest size grape fruit, and with its waxy, almost transparent appearance, and a blush that is **really a genuine blush**, it makes one of the handsomest fruits I have ever seen. Grown in the east it is more moderate in size, still large enough. It is deservedly growing in favor and has a right to stand up and be counted with such valuable new varieties as Scarlet Beauty, Stearns, Opalescent and Delicious. W. L. M.)

Yellow Bellflower—Size varies from medium to very large. A good apple for culinary use. Bright lemon yellow, often with brownish red blush on exposed side. December to April.

A hungry day in the orchard—two birds in the cherries.

A thirsty day in the orchard.

Dwarf Crab Apples

PRICE, same as Apples

Excelsior—Very large, yellow, splashed with red; a beautiful little dessert apple. Early September.

Martha—One of the newest varieties; large, yellow, covered with red, good to very good. September to November.

It is interesting to know that the apple filled so many of the same uses three hundred years ago, as now. John Parkinson, an Englishman writing in 1629, seems to have been as well posted as we as to the seductiveness of the innocent cider and the more strenuous potency of its first cousin, apple jack; he says: "The juice of Apples likewise, as of Pippins and Permaines, is of very good use in Melancholic diseases helping to produce mirth, and to expel heaviness. The distilled water of the same apples is of the like effect!" Very evidently this same John when a boy had tackled the cider barrel with the help of a nice long wheat straw, just as some of us youngsters did a few hundred years later!

STANDARD APPLE TREES

There are few parts of the United States where apples cannot be grown provided there be moisture and the two extremes of heat and cold are avoided.

Most varieties are especially adapted to certain conditions of climate and soil, and thrive at their best only under these conditions. For example, it is only along the Hudson River in New York State that the Yellow Newtown can be grown to compete in any way with those grown in Virginia; the Baldwin which is the great apple of New England, New York, Northern Ohio, Southern Michigan and Canada, becomes a fall apple of inferior quality in many parts of Pennsylvania.

As a rule a variety reaches its highest perfection as to quality, well toward the northern and colder portion of the regions where it is grown. The McIntosh of northern New York, Maine, New Hampshire and Canada, is far superior to the same variety as we can grow it in Geneva.

The distance at which standard apples should be planted depends on the variety. For such mammoth growers as are sometimes the Roxbury Russett, Baldwin and Spy, 50 feet is none too wide, though the usual distance for them is about 40 feet. For such growers as Yellow Transparent, McIntosh, Wealthy, Sutton, and Wagener, half the distance is sufficient for many years. The proper way to plant a standard orchard is to put the strong growing varieties at from 40 to 45 feet apart each way, and fill up between them with three times as many standard trees of the weaker growing kinds as "fillers," or else better still, plant in between each two standard rows, two rows of dwarf trees planted about 8 or 9 feet apart, the trees the same distance from each other, as shown in the orchard of Dean Bailey below. If the standard orchard is 45 feet plant the dwarfs 9 feet, and if 40 feet, plant the dwarfs 8 feet apart so as to have the standards row with the dwarfs.

As fillers for apple orchards use other apples, peaches or plums, but of the tree fruits do not use cherries or pears, except Kieffer, which is a good filler. Both are too long lived for the purpose, and when you came to thin you orchard you would probably cut out the apple trees and leave the fillers!

Just a word of suggestion to those who are starting into commercial apple orcharding. **Forget the kinds of apples you like to eat,** and if you do grow them, grow them **not because you like them,** but because they are **the varieties that do best in your region;** kinds that have good crops of good fruit often enough to be a paying proposition, and that the market wants and will take at the time you want to sell them. To illustrate, the Greening is not a very good priced apple picked when it should be and sold at once. Keep it in storage until February and it just about heads the procession. Baldwin really does not wake up some years to a good market till January. The Stark is a dead proposition till the Baldwin are pretty well out of the way, when it is well received. Such kinds as Rome Beauty, Ben Davis and the Russets are not wanted till way into spring, when I have sold Rome Beauty for $6.50 a barrel, that would not have brought to exceed $2.00 the fall before.

So, size up your market; **grow for that market** and only those kinds which your market wants and which will produce the largest crops of the finest fruit. . Even if it would seem that the despised Ben Davis were the one to plant, don't hesitate to plant it. Remember, **you don't have to eat them yourself;** put in a dwarf orchard for home use of just as many of the choicest kinds as you want, but don't try to educate the public taste—you can't afford it—it's too expensive!

Having decided on varieties, select only two or three or possibly four of those that promise best, and let the rest go. Plant enough trees of each kind so that when your orchard is half grown you will have at least a carload of that one kind in an ordinarily good fruit year.

I heard recently of a "back to the land" orchardist who for a commercial orchard had planted over forty varieties. If he avoids financial shipwreck it will be in spite of his orchard, not because of it. So unless you are going into it in an unusually large way, **plant very, very few varieties.**

DWARF APPLE ORCHARD OF DEAN L. H. BAILEY, AT ITHACA, N. Y.
This is a standard orchard with trees 40 feet apart each way, filled with double rows of Dwarf Apple Trees set 8 feet apart from each other both ways
From photograph by Professor F. A. Waugh, Horticulturist at The Massachusetts Agricultural College, Amherst

STANDARD APPLE TREES—Continued

Prices of Standard Apple Trees, except as noted, cash with order

2 and 3 year trees	Each	Per Doz.	Per 100	One year trees	Each	Per Doz.	Per 100
Extra size, about 5–7 ft	30c	$3.00	$20.00	About 3–4 ft	30c	$2.75	$17.50

Smaller sizes of apple trees quoted by the hundred on application, giving the varieties wanted and number of each. We offer a 4 to 5 ft. grade, also a grade about 3 to 4½ ft. Remember, to quote intelligently, **we must have the varieties and number of each kind wanted.**

When the commercial orchard planter is buying his trees in large quantities he naturally expects to secure them at a less rate than if buying just a few trees. Our hundred rates on both one and two year old trees are as low as we can quote the average varieties, but when quoting price on real large orders of several hundred trees, we will be governed very largely by the number of trees and the varieties wanted, and make as favorable rates as the nature of the order warrants. In asking for special quotations on any such orders be sure to state the **specific varieties and the number of each one.** We cannot make quotations intelligently without this information. In quoting on a thousand apple trees there might be a wide difference in price between kinds of which we are short and kinds of which we have such a supply as would make it worth our while to make some concession in price. Aside from these specific cases the prices as listed are strictly net, f. o. b. Geneva, cash with order.

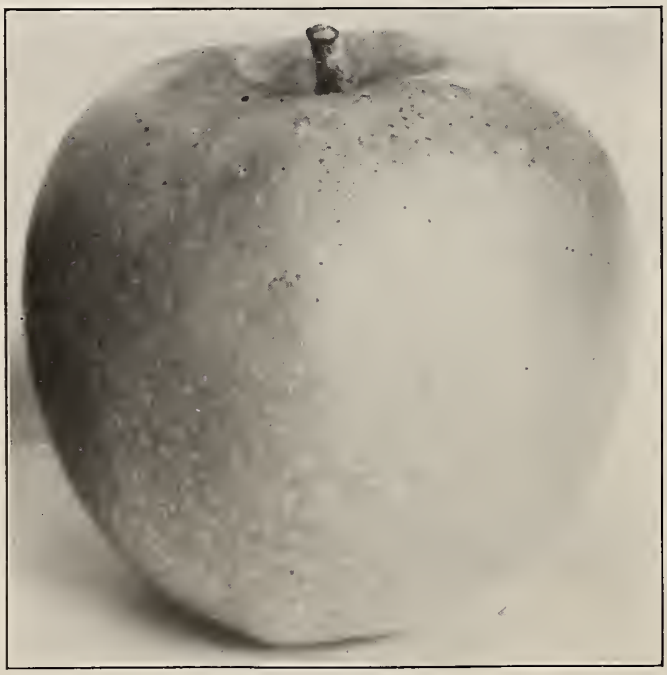
(Note—To buyers who are looking for the cheapest trees for the size that money will buy, I will make the special request that you do not submit your list. With the service we are giving in getting to our customers the best possible trees in the best possible condition, I shall not be "low man," and if price is the only consideration you will be wasting your time and mine. W. L. M.)

Early Varieties of Standard Apples

Early Strawberry—Described on page 16.
Early Harvest—Described on page 16.
Golden Sweet—Described on page 16.
Red Astrachan—Described on page 16.
Sweet Bough—Described on page 16.
Yellow Transparent—Described on page 16.

Fall and Early Winter Varieties

Autumn Strawberry—Described on page 17.
Bismarck—Described on page 17.
Constantine—Described on page 17.
Fall Pippin—Large, yellow, sometimes faintly blushed; a splendid dessert and cooking apple. Late September to January.
Fameuse—Described on page 17.
Gravenstein—Described on page 17.
King—Described on page 17.
Maiden Blush—Good size; pale yellow with crimson blush on one side; very juicy, and good for culinary use. September to December.
McIntosh—Described on page 17.
Oldenburg (Duchess)—Described on page 17.
Scarlet Beauty—Described on page 17. **Prices 50c each; $5.00 per doz.; $35.00 per 100.**
Stearns—Described on page 18. **Prices 50c each; $5.00 per doz.; $35.00 per 100.**
Twenty Ounce—Described on page 18.
Wealthy—Described on page 18.
Wolf River—Large; deep red blush, with broad carmine stripes. Very showy, only fair quality. September to December.



WINTER BANANA

Winter Varieties

Bailey Sweet—Described on page 18.
Baldwin—Described on page 18.
Ben Davis—Described on page 18.
Black Ben Davis—Medium size and good quality. Brilliant red, often with some pale yellow. January to April or May.
Boiken—Described on page 18.
Golden Russet—Described on page 18.
Delicious—Described on page 18. **Prices, 50c each; $5.00 per doz.; $35.00 per 100.**
Grimes' Golden—Medium to large in size, and of very good quality. Clear deep yellow in color, with pale yellow or russet dots. November to January.
(Note—This variety originated in West Virginia, and is more successfully grown in the south and southwest than in New York and the east. It is a choice variety but should not be planted here except as one or two of a collection. W. L. M.)
Hendrick Sweet (Sweet Winesap)—Medium in size, and good in quality. Bright green or yellow, with reddish spots or with a pronounced brownish red blush. December to April or May.
(Note—Perhaps the best all round sweet apple we offer. It is a choice home variety, and has proven a profitable apple to grow for market in many regions of the state. W. L. M.)

STANDARD APPLE TREES—Continued

Prices of Standard Apple Trees, except as noted, cash with order

2 and 3 year trees	Each	Per Doz.	Per 100	One year trees	Each	Per Doz.	Per 100
Extra size, about 5–7 ft	30c	$3.00	$20.00	About 3–4 ft.....	30c	$2.75	$17.50

Smaller sizes of apple trees quoted by the hundred on application, giving the varieties wanted and number of each. We offer a 4 to 5 ft. grade, also a grade about 3 to 4½ ft. Remember, to quote intelligently, **we must have the varieties and number of each kind wanted.**

WINTER VARIETIES—Continued

Hubbardston—Described on page 18.

Jonathan—Described on page 19.

Lady Sweet—Fruit generally large and very good in quality. Well overspread with bright red splashed with carmine. One of the most desirable sweet apples for commercial plantings. November to April or May.

Northern Spy—Described on page 19.

Opalescent—Described on page 19.

Pewaukee—Above medium in size and fair to good in quality. Green or yellow, washed or mottled with orange-red or red. November to April.

R. I. Greening—Described on page 19.

Rome Beauty—Described on page 19.

Roxbury Russet—Above medium size and very good quality. Skin usually covered with greenish or yellowish-brown russet. December to May.

Seek-no-Further—An apple of above medium size and of high quality. Deep yellow shaded and splashed with rather dull red, but often more highly colored. February.

Senator—Described on page 19.

Spitzenburg—Described on page 19.

Stark—Described on page 19.

Stayman—Described on page 20.

Sutton—Described on page 20.

Tolman—Described on page 20.

Wagener—Described on page 20.

Winter Banana—Described on page 20.

Yellow Bellflower—Described on page 20.

Crab Apples

Same Price as Apples

Excelsior—Described on page 20.

Hyslop—A fine old variety, above medium to large in size; dark purplish red; fine for culinary purposes. Late September and October.

Martha—Described on page 20.

Transcendent—The "old reliable" crab apple, probably the best jelly crab of them all. Medium to large, bright yellow with bright red cheek. Late August and September.

DELICIOUS

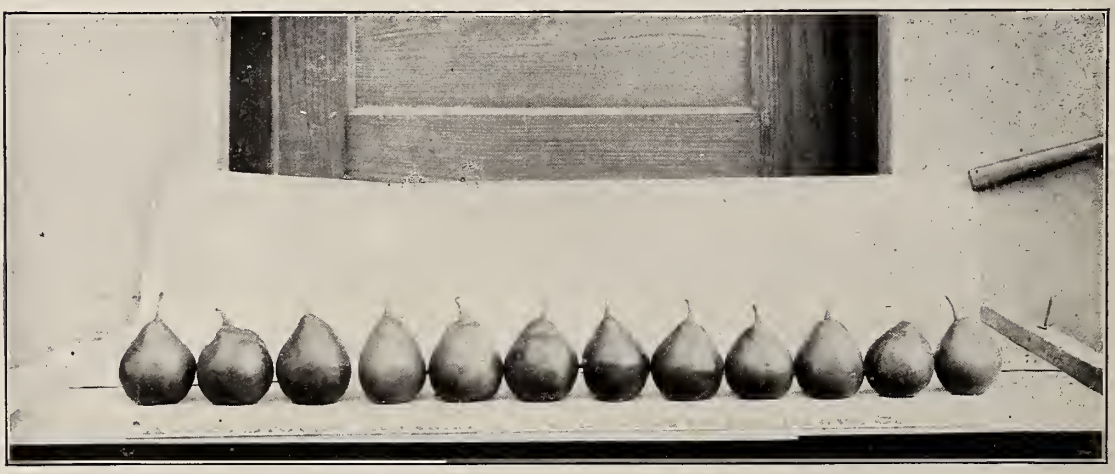
DWARF PEAR TREES

We are not trying to give technical descriptions of these pear varieties and a very few words are enough to give some idea of each. They are good varieties—all of them, and we prefer to save our superlatives and fancy adjectives for a few special cases. Of all our list, the pears that are best to eat are Bosc, Comice, Seckel and Sheldon. Seckel is small and Sheldon, while of fair size is a dull russet green and does not begin to advertise the possibilities concealed within. But Comice is a great big pear with a beautiful golden skin and has quality—a huge lump of juicy, melting, delicate flavor.

Bosc is the handsomest pear we grow—reddish golden russet in color, a broad bell-shape with a long slender neck, of good size. It is a high quality fruit, spicy flavor, less juicy than Comice, a Christmas pear. It is not easy to grow the young Bosc trees; and many nurserymen have stopped trying it, advising that it be grafted upon other varieties, which is sometimes successfully done. But we have Bosc soil and can carry the little tree through the critical early stage into sufficient vigor for a safe garden or orchard proposition.

There is no style of growth or training in which dwarf pears will not succeed admirably. Allow six to nine feet between pears grown as bush or pyramid. Pears intended to cover a wall or trellis need at least ten feet to develop in; and if you will give them years enough they will fill double that space. Eighteen inches apart is enough for upright cordons; two feet for U-form and four feet for double U-form.

The pear is a delicious fruit and grows on a very teachable tree; and if "Dad" wants to try his hand training fruit trees into all sorts of shapes, this is one of the very best kinds for him to practise on.



Very few fruit growers in the East even know what the "COMICE" Pear is. Well, here's a "yard" of them, taken fall of 1913. In quality, among all the varieties that we offer I would place them with Seckel and Sheldon. For a superb home variety they are unsurpassed. A collection of pears for the home garden without Comice would be a great mistake.

Prices of of Dwarf Pear Trees, except as noted, cash with order
40c each, $4.00 per dozen, $25.00 per 100

Early Varieties

Prior to October

Bartlett—Stands in the same relation commercially among other pears, as Baldwin does among apples. Large size; rich yellow when ripe, with a beautiful, blush cheek; highly flavored, juicy, buttery, very vigorous, **bears very abundantly at a comparatively early age, and is an annual bearer.** August and September.

Clapp's Favorite—Very large; pale yellow, blushed with red; very **high, rich quality.** Should be gathered very early. August.

Flemish Beauty—Tree hardy, vigorous and productive; fruit large, roundish, very subject to scab if not sprayed; pale yellow, with a reddish brown cheek; fine, high quality. September.

Seckel—Our most highly flavored pear, the standard of excellence. Fruit small, yellowish brown, with a russet-red cheek; flesh very juicy, melting, aromatic. with a rich, spicy flavor; quality, very best. September and October.

Sheldon—Tree vigorous, hardy, productive; fruit medium to large, round, apple shaped; greenish, changing to a yellowish russet when fully ripe. Flesh whitish, very juicy, melting, rich, very high quality. October.

Wilder—A large, pale yellow variety, shaded to a dark, russet red. Very early and good.

Worden Seckel—Seedling of Seckel, by S. Worden, originator of the Worden grape. Fruit medium in size, larger than its parent; pale yellow, overspread with red on the sunny side; flesh white, melting, not as rich and vinous as Seckel, but finer grained, very good. September.

DWARF PEAR TREES—Continued

Prices of Dwarf Pear Trees, except as noted, cash with order
40c each, $4.00 per dozen, $25.00 per 100

Late Varieties

October and later

Angouleme—Large with uneven surface; greenish yellow, often streaked and spotted with russet; juicy, sweet, very good. October. Best as dwarf.

Anjou—Large; greenish yellow, sometimes faintly blushed; flesh slightly coarse, juicy, aromatic, very good. October, November.

Bar-Seckel. Medium size, with a slightly elongated neck; yellow with red cheek and of excellent quality. October.

Bosc—Large; dark yellow, covered with cinnamon russet and sometimes tinged with red; flesh white, buttery, melting, rich, sweet, aromatic and delicious, best. October. **75c each, $7.50 per dozen.**

Comice—The tree is a healthy grower and good bearer. Fruit large, roundish pear shaped, sometimes varying somewhat in form; color lemon yellow with a greenish tinge; flecked with patches of pale brown russet, often blushed in the sun. The flesh is yellowish white, fine grained, very tender, rich and sweet. October, November. **50c each, $5.00 per dozen.**

Clairgeau—Very large, long; yellowish-brown with an exceedingly handsome, deep red cheek. November.

Howell—Large, sometimes with a short neck. greenish yellow; grows very large proportion of fair fruit. October.

Dwarf Pear Trees in the garden of Mr. Rudolph Janicke of St. Joseph, Mo., to whom we are indebted for the above cut. Those at the left are upright cordons, the dwarf Duchess in the center with fruit being the same, somewhat modified at the base into bush form. By the way, the Duchess is one of the best varieties as a dwarf.

Idaho—Large, round, golden with russet dots; juicy, sprightly; very good. First of October.

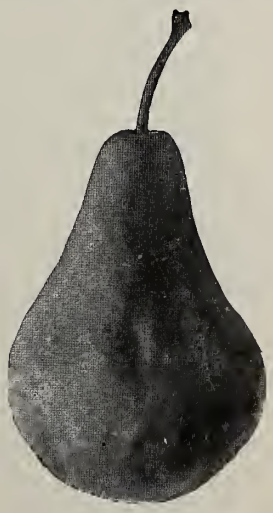
Comice Dwarf Pear started for a Palmette; this is the result of just the first season's training. An additional pair of arms is grown each season until you have 4 or 5 pairs which is usually sufficient. This is a very easy form to train to and the fruit so grown is the very best.

Kieffer—Tree very vigorous and an early, heavy and regular bearer; fruit medium to large; yellow, blushed with red on the sunny side; flesh coarse, juicy, of very medium quality, but excellent when canned or cooked. October.

Lawrence—Medium size, very productive; greenish yellow, often marked with russet; very good. Early winter.

Louise Bonne—A large, handsome, distinctly pear shaped variety; greenish yellow with red cheek. Best as dwarf. Heavy bearer. October.

Vermont Beauty—Below medium in size; greenish yellow, blushed and specked with red on the sunny side; of fine quality. Early October.



BOSC—very much reduced

STANDARD PEAR TREES

PRICES, except as noted, cash with order

2 and 3 year trees	Each	Per Doz.	Per 100	One year trees	Each	Per Doz.	Per 100
Extra size, 5–7 ft	35c	$3.50	$25.00	About 3–4 ft	30c	$3.00	$20.00

Smaller sizes of pear trees quoted by the hundred on application, giving the varieties wanted and number of each. We offer a 4 to 5 ft. grade, also a grade about 3 to 4½ ft. Remember, to quote intelligently, **we must have the varieties and number of each kind wanted.**

Pears require a strong soil for the best development of tree and fruit. A rich loam topsoil with strong clay subsoil is for the great majority of varieties, the ideal soil. Of course the land must not be wet.

Never plant closer than 16 ft. in commercial orchards, and 18 or 20 is better. In garden or lawn of course much closer planting is allowable.

The clay sub-soil of the New York nursery regions gives us ideal pear land. As a matter of fact a very large part of the pear trees sold by western and southern nurserymen, except such varieties as Le Conte, Garber and Kieffer, are bought by them from New York State growers.

Our own particular location seems especially adapted to pears, as is shown by our wonderful success in growing the Bosc, a variety that few nurserymen attempt to grow, frankly admitting that they cannot grow it successfully except by grafting it upon some other variety. It is quite probable that within a short mile from us there may be some change in soil character that would preclude its successful growth. We mention the Bosc to show what our land can do in way of growing pear trees.

CLAPP'S FAVORITE
Much reduced.

Price of BOSC

2 and 3 year trees	Each	Per Doz.	Per 100
Extra size, 5–7 ft.....	$1.00	$10.00	$65.00
One year trees, 3–4 ft	.75	7.50	45.00

Special hundred rates on smaller sizes

Price of COMICE

2 and 3 year trees	Each	Per Doz.	Per 100
Extra size, 5–7 ft.....	75c	$7.50	$45.00
One year trees, 3–4 ft	50c	5.00	35.00

Special hundred rates on smaller sizes

BARTLETT PEAR

EARLY VARIETIES		LATE VARIETIES	
Prior to October		October and Later	
Described on page 24		Described on page 25	
Bartlett	Seckel	Anjou	Kieffer
Clapp	Sheldon	BOSC	Lawrence
Flemish	Worden-Seckel	COMICE	Vermont Beauty

We offer the above varieties as standards, all of which are very briefly described in the last two pages under Dwarf Pears. Some of these varieties however, deserve a more extended comment, as commercially the standard pear is more extensively planted than the dwarf.

The small commercial grower—and by "small" I mean one who does not grow enough of one variety to make a car load shipment—is quite restricted in his choice of pears for commercial growing. If growing for shipment less than a car load he must do one of two things—grow the kinds that his local fruit buyers will take off his hands at a fair price, or else such varieties as will bring a high enough price to warrant his shipping by express.

The two great varieties for which there will be found a dealer in almost every section are the **Bartlett** and **Seckel.** They are two perfectly safe varieties to plant, either few or many trees. In very many sections the **Kieffer** is coming to be bought up by local dealers for shipment. This is such a big yielder, however, that I would advise planting **Kieffer** either just a tree or two for home canning and cooking, for which purpose there is no better variety, or else plant at least two hundred trees, so you may have a car load and be independent of the local buyer, if you desire.

SHELDON—Much reduced.

STANDARD PEAR TREES—Continued

Prices of Standard Pear Trees (see preceding page)

The **Kieffer** is distinctly a low priced pear; but I believe an acre of **Kieffer** can be grown as cheaply as an acre of potatoes. We have about three acres of **Kieffers** in bearing, and for the last six seasons they have sold for an average of a little over $520.00 per year for the fruit alone, picked and sorted. One of these six years fully fifteen tons of fruit was blown off, and another year about eight tons. Unlike all the other kinds mentioned here, the **Kieffer** should be left on the tree as late as you dare. About October 10th is my date for commencing picking. While you will sometimes lose heavily from the wind, they must be left late to get size and color, and even if you lost every third crop from the wind it would still pay to leave them as late as possible. Another advantage is that the late market is best. **Kieffer** is the strongest grower of any of our varieties, is not effected by the scale, commences bearing literally **right away,** and is the surest cropper of them all. **You can afford to grow it and sell it cheap.** After **Kieffer** reaches full bearing size cut each year's growth back to two or three inches. Owing to its early, regular and heavy bearing, **Kieffer** may be used advantageously as a filler in an apple orchard. This the only pear I would advocate using as a filler.

The **Clapp's Favorite** is coming to be a first-class commercial variety, but by all means omit it or else plant enough for car lot shipments. It is very early and too perishable for small lot freight shipments.

The **Flemish Beauty,** a very high quality pear which should be in every home collection, is distinctly not a good seller in any market from which I have ever seen quotations. But it's just one grand pear for a tree out in your back yard.

The **Lawrence, Worden-Seckel and Vermont Beauty** are varieties that may be in the home garden profitably, but so far as I know Lawrence is the only one known in the general market, and that is low priced.

The **Sheldon,** one of the very highest quality pears there is, of late years is gradually coming to have a better standing in the market, but not in my opinion so that it should be grown commercially as long as there are other kinds that will show a better profit on the balance sheet. The amateur grower, however, who omits **Sheldon** misses one of the very best of all.

We now come to two pears which I think will always command a high enough price to pay for expressing to your nearest large market; the **Bosc** and **Comice.** Both should be picked early, and if possible, for the best prices, put into cold storage. In the east, New York and Boston are the best **Bosc** markets and probably for **Comice** also. **Bosc,** when first picked will keep only a short time out of cold storage. But put it into cold storage, keep it till late November or December, then take it out and **you can keep it two months longer in an ordinary cool cellar.** Bring them up into a warm room two days before you want to use them and they will ripen up to perfection. You can handle the **Sheldon** in the same way except it will not keep so long nor so well. I have never tried the **Comice** this way, but have no doubt it can be handled much the same.

In regions where the **Bosc** thrives as it does generally in the pear regions of New York and New England at least, I believe that there is no pear today which will prove as profitable as an orchard of this variety. I usually ship only my seconds, but they bring from $5.50 to $8.00 per bbl. Last year number one **Bosc** brought $14.00. They should be shipped in the square bushel boxes for the Boston market, and our commission house there informs us that even in season when pears are a drug, $2.00 a box is low mark for **Bosc.**

The **Bosc** is a variety that is late coming into bearing; I would give little encouragement of returns under 8 or 10 years. It is a question however, if pinched back in the summer as we advise in handling the dwarfs, whether it may not be brought into bearing earlier. It would not be worth while to do this till the tree had 3 or 4 years' growth—enough to form a head large enough to carry a small crop.

Now, suppose you are growing just for **your own local market;** your one great demand will be for **Bartletts** for canning. While we prefer Kieffer for this purpose, the **general public wants Bartletts;** you can sell a few, of course, of nearly all the other best kinds—**Seckel, Clapp, Flemish, Sheldon**—but in very limited quantities compared with **Bartletts.** Your next best variety will be **Bosc** if you can get it into cold storage so as to get it back for the holiday trade. **Comice** will sell in small lots when ready to pick, and later from storage, along with **Bosc.**

Looking at the entire field of commercial fruit growing today, omitting peaches, **I believe large pear plantings the safest venture there is for the fruit grower.** W. L. M.

A CLUSTER OF KIEFFER

DWARF CHERRY TREES

Prices of Dwarf Cherry Trees except as noted. Cash with order. 60c each, $6.00 per doz., $40.00 per 100

In the entire eastern portion of the United States, probably no fruit outside of apples, generally does so well as the cherry. About the only absolutely necessary soil requirement is that **it must not be wet.** Like the peach in this respect, the tree will not live in land that holds water in surplus of the trees' requirements.

In northern New York and the coldest parts of New England the sweet varieties cannot stand the severe cold of winter, but there are very few localities indeed where the sour varieties cannot be grown.

DWARF ENGLISH MORELLO
Only one year planted. 150 blossoms.

SWEET VARIETIES—BLACK

Black Tartarian—Fruit large, heart shaped, purplish black; quite juicy; very tender and of fine flavor and quality. Not so firm as Windsor, but decidedly higher in quality. If only **one black cherry is wanted for home use,** this is probably the best. June, early July.

Schmidt Bigarreau—This is a variety which was brought to the attention of nurserymen 25 or 30 years ago, boomed and then dropped. The trees sold then, however, have lately begun to show up with results which have brought it back into strong demand. It is jet black like the Tartarian. In size, quality, juiciness, season and keeping qualities it comes just about between the Tartarian and Windsor. A prolific bearer.

Windsor—Medium to large, nearly or quite black when fully ripe; flesh somewhat juicy, tender, meaty and very firm, making it a good shipper and valuable commercial variety. In both quality and size is the inferior of Tartarian, but withal is a fine cherry and adds greatly to the length of the season. Middle to last of July.

DAVID AND GOLIATH
Dwarf Schmidt and Standard Gov. Wood.
(Mr. Hyatt is 6 ft. 3 inches tall, himself)

SWEET VARIETIES—LIGHT COLORED

Governor Wood—It is fortunate that all cherries are not the great commercial varieties like Napoleon and Montmorency. Here is one that the commercial world would never miss if it were no longer grown, but for just a single tree in the home garden, it could ill be spared. A medium sized, amber colored cherry, with red cheek, a tender, sweet and delicious variety suitable only for home use. First of July.

Napoleon Bigarreau—Probably the best light colored, commercial variety. Fruit very large, heart shaped; skin whitish yellow, changing when fully ripe to a rich yellow with a brilliant red cheek, sometimes covering nearly the entire cherry. Flesh very firm, sweet and meaty, very good, ranking, however, in quality below the Yellow Spanish whose season it overlaps, being a little later. Is at its perfection about July 8th to 12th.

Rockport Bigarreau—Fruit large, heart shaped, amber yellow with bright red cheek. A tender, juicy, fine flavored variety for home use, but too tender for shipping. First of July.

Yellow Spanish—Large, heart shaped, amber yellow with a bright red blush; meaty, sweet, very rich, rather more juicy than Napoleon and distinctly higher quality, and at the same time nearly as firm and a good shipper. Like Napoleon, if sprayed to control rot will hang a long time on the tree. Early July.

DWARF CHERRY TREES—Continued

Prices of Dwarf Cherry Trees, except as noted, cash with order. 60c each, $6.00 per doz., $40.00 per 100

"THE ABESSE D'OIGNIES" CHERRY

SOUR VARIETIES

Abbesse—This seems to me to be rather the best in quality of all the sour varieties I have tasted. Almost black when fully ripe, its acid becomes greatly moderated to a delicious sprightly flavor had by no other of its class. It is preeminently a cherry for home use, being too juicy and tender to ship. Our buds are from the State Experiment Station's tree. You cannot have the **best** assortment without this kind. A dwarf of this variety planted last spring today shows buds for fruit next season. **Price, 75c each, $7.50 per dozen.**

English Morello—A very dark red cherry which for early bearing probably leads all our varieties. The dwarfs of this variety that we have dug for spring shipments are frequently supplied with fruit buds which will bloom the coming spring. Allowed to hang on the tree Morello lasts till the middle of August, becoming very dark and rich. Their long season, 3 to 4 weeks, gives them special value both for home use and in the markets.

Early Richmond—About the size of Morello, light red, juicy, and quite acid, a full week earlier than Montmorency, coming early in July. This is perhaps the best of the well known early sour cherries.

Marguerite—A very old variety which we reintroduced a few years ago after seeing it in fruiting. It has proved to be well worthy of our notice. It is a very large, light red cherry with an almost yellowish cheek, yellow flesh, very firm and "meaty," mildly acid and nearly as late as Morello. This bears very young—we have had them fruit the same season planted. I should certainly place its value well up for home use, and believe the market would be pleased with it also. **Price, 75c each, $7.50 per dozen.**

Montmorency—Probably the best known variety of cherry grown today. This is the one that is used for canning in preference to all other sour varieties. It is larger than Richmond, less acid, firmer of flesh and higher quality. It is from one to two weeks later than Richmond. Its usual picking season commences about July 10 and lasts for two weeks.

Ostheim—This is a rather small, quite highly flavored variety, an extremely heavy bearer and extremely late. It will surprise you when it shows you how late a cherry can hang on the tree.

Princess Christine—A bright red cherry, sour enough to make a good cherry pie; acquires a darker red and a milder acid flavor when dead ripe the first week in August. The Montmorency itself is no better canner than this little known variety ripening two weeks later than Montmorency when no other equally good red canning cherries are obtainable. **Price, 75c per tree, $7.50 per doz.**

Royal Duke—Not very acid, large, quite dark when fully ripe, high quality and quite late. A very old variety obtained from the Experiment Station's orchard which impressed me as worth while to plant. **Price, 75c each, $7.50 per dozen.**

Dwarf Montmorency in its third season.

STANDARD CHERRY TREES

Prices of Standard Cherry Trees except as noted, cash with order.

Special prices will be quoted on large orders of the smaller sizes. Be sure to state the varieties wanted and number of each.

SOUR VARIETIES. Described on page 29. Plant 16 to 18 ft. apart.

All sour varieties are lighter growers than the sweets, and are graded correspondingly shorter.

2 and 3 year trees	Each	Per Doz.	Per 100
Extra size, about 5–6 ft.	40c	$4.00	$30.00

One year trees	Per 100
About 3 ft	$20.00

ABBESSE, 50c each, $5.00 per doz.
English Morello
Early Richmond
MARGUERITE, 50c each, $5.00 per doz.
Montmorency
Ostheim
PRINCESS CHRISTINE, 50c each, $5.00 per doz.
ROYAL DUKE, 50c each, $5.00 per doz.

SWEET VARIETIES. Described on page 28. Plant 20 to 22 ft. apart.

2 and 3 year trees	Each	Per Doz.	Per 100
Extra size, 5–7 ft.	50c	$5.00	$40.00

BLACK VARIETIES

Black Tartarian
Schmidt Bigarreau
Windsor

LIGHT COLORED VARIETIES

Governor Wood
Rockport Bigarreau
Napoleon Bigarreau
Yellow Spanish

Six best cherries for the home garden, in either dwarfs or standards: **Abbesse, Black Tartarian, Marguerite, Montmorency, Princess Christine, Yellow Spanish.**

As we are cherry growers on a somewhat large scale, I have frequently been asked for advice as to the varieties to plant for commercial orchard. Anticipating this question I will try to answer it—but don't trust my ideas too much—mix in a whole lot of your own good judgment with them!

It depends on two things—**what kinds can your locality grow,** and **for what market do you wish to grow?**

What I say will be based on my experience right in Geneva; we have three different markets: a small local market, an unlimited market in the large cities within reach of freight or express, and a very large but not unlimited canners' trade.

For the canners' trade, plant 80% of your acreage to Montmorency and 20% to Napoleon or Spanish,

For shipping to the city markets. Out of a hundred sours I would plant five or ten Richmond and divide the rest about equally between Montmorency and Morello. Of late years possibly Morello have brought most per basket, but Montmorency will yield most. For sweets I would plant at least 50% Windsor and divide the rest between Schmidt, and either Napoleon or Spanish, or both, it makes little difference which.

For the local market there is great latitude; you want fruit from the earliest to the latest, and the household canning demands will run very strongly to Montmorency and Napoleon or Spanish; these light kinds, too, will be wanted for table use. If planting 100 trees I would plant 60 sour trees running about as follows: 3 Richmond, 35 Montmorency, 10 Morello, 5 Abbesse, 5 Marguerite and 2 Ostheim. For the 40 sweets I would use about 2 Gov. Wood, 3 Black Tartarian, 4 Schmidt, 6 Windsor, 15 Napoleon and 10 Spanish. If I were to vary this list it would be to increase the proportion of sours, but it makes a reasonably close "guess" to follow, if you can grow all these kinds.

The list given might become a very misleading one for some places, where, for example, the sweets cannot be grown at all or where there is a fancy summer suburban residence trade, which would want mostly sweets, quite largely blacks. No one can solve these purely local questions but yourself; just stick to the rule to **learn what your market wants, and then grow it if you can.**

ONE OF OUR MONTMORENCY ORCHARDS IN BLOOM LAST SPRING.

QUINCE BUSHES

The Quince is essentially a dwarf tree, and responds most readily to training to any form the grower desires. The cut shown here is a result obtained by us with two plants the first year and they were planted very late in the season.

It bears very early, the blossoms coming out at the tips of wood that shoots out the same spring, before the bloom appears. The quince may be trimmed very closely and kept down to any size desired and makes one of the handsomest of fruit trees both from its large, pink blossoms in spring, its dark rich summer foliage and the wonderfully beautiful, golden fruit in the fall.

The quince thrives in a moister soil than the other fruits, and may be planted anywhere from a few feet apart, if grown as a dwarf, to 12 feet without any trimming whatever.

Price of Quinces, except as noted, cash with order

	Each	Per Doz.	Per 100
Extra size, 3–4 ft.....	**40c**	**$4.00**	**$25.00**

Quince bushes trained in U-form; only one summer's training.

Bourgeat—A new variety and one that seems to be making for itself a place in the good estimation of growers. It is even a stronger grower than Champion, and shows to quite a degree the same tendency as does the Champion to produce fruit at two years right in the nursery row. A kind that I think will well repay a trial. A late keeper.

Champion—A very vigorous growing variety, better adapted to regions as far south as New Jersey than to growing further north if grown commercially, though for the garden a tree or two is worth while, especially on account of its early bearing qualities. We have seen this bearing in our nursery rows at two years of age when probably every other tree in the row had some fruit.

Orange—This is the variety usually grown in the commercial orchards. Is a very much weaker grower than either of the last two, but if planting for market would advise it. It is a very large, round, golden fruit. This variety may run a little under 3 feet in height.

Sweet Winter Quince—This variety has no value commercially, owing to its small size, but it is the most beautiful quince of all in appearance. It is only medium size, having the perfect pear shape with the long neck, of the Bosc pear. It is quite late, rather sweet and a late keeper, and for the home garden is a little gem. We shall have to fill orders with either one or two year trees as we find necessary, smaller than the other kinds. **Price, 50c each, $5.00 per dozen.**

APRICOT TREES

A mighty good way to utilize both sides of the old fence
Courtesy of *House and Garden Magazine*

Price of Dwarfs, 50c each, $5.00 per dozen

Montgamet—As good as the best and probably a little hardier than most other good varieties. All kinds are a little tender in New York State, owing to early blooms getting nipped by the spring frosts. Plant as dwarf bush, small enough to protect nights with a sheet when in bloom, or grow against the west side of a wall, tight fence or building as shown here, protecting with a sheet when in bloom, in case of frost.

Smith's—A good variety about equally hardy with the Montgamet.

Price of Standards, 35c each, $3.50 per dozen

Montgamet—Described above.

DWARF PLUM TREES

Price of Dwarf Plum Trees, except as noted, cash with order. 60c each, $6.00 per doz., $40.00 per 100.

JAPAN VARIETIES

The Japan plums differ widely from the Europeans. They are generally earlier and heavier bearers, fruit fully as large, tree hardier than many Europeans and can be grown in localities where the others fail. They make fine dwarfs, Burbank and Abundance being among the best.

Abundance—A dark red plum of good size, a heavy bearer; rather sweet, with a rich, pleasant flavor; very early.

Burbank—This is probably the best of the Japans. It is a wonderfully heavy producer, the fruit being a brilliant red with the golden ground color showing through the red in places making an exceedingly handsome fruit. This is one of the very best as a dwarf. August.

Red June—A very dark, garnet red, large and good; earlier than Abundance.

October Purple—A large, dark red, juicy plum, with yellow flesh. September.

Satsuma—Large, round, both skin and flesh very dark red; sweet with a slight almond flavor. Sept.

Wickson—The largest plum grown, and shows great beauty of form and color, a rich golden red. A very attractive kind for dwarf. Early Sept.

Dwarf and Standard Burbank Plum Trees.

EUROPEAN VARIETIES

Bradshaw—Very large, egg shaped; dark violet red changing to purple when ripe; flesh yellow, rather coarse, sweet, rich, juicy, **very fine quality, and one of the best if not the best dessert plum,** but not valuable as a market variety except for short distances. Half freestone. August fifteenth.

Fellenburg (Italian Prune)—Fruit large, oval, purplish black with thick white bloom; flesh greenish yellow, fine grained, tender, firm, agreeably flavored, very good quality; freestone. September.

German Prune—Fruit medium size, oval; skin purplish black, covered with thick bloom; flesh green, rather dry, fine grained, firm, sweet, of very good quality; freestone. September.

Lombard—Vigorous, very productive, an annual bearer; large, oval, purplish red, becoming very dark; flesh yellow, juicy, fine grained, fairly firm and sweet, good; half freestone. August, September.

(Note—This is one of the old "standbys" you should have. **It's easy to grow and is in good demand.** W. L. M.)

Reine Claude—The true Green Gage—Large, round, green turning to the most **perfect golden yellow when ripe,** in which stage it compares with Bradshaw as a dessert plum of the **very highest quality.** Flesh throughout its changes is the same as the skin in color; freestone. September, October.

Shropshire Damson—An improved Damson, grown with success in New York; medium size, oval, purplish black with thick bloom; flesh golden yellow, fine grained, firm, sour, changing to an agreeable, sprightly flavor when ripe; clingstone. September, October.

Yellow Egg—A very vigorous, productive variety; fruit very large, long, oval; an attractive golden yellow covered with white bloom; flesh yellow, juicy, rather coarse, sweet and tender, of good quality; nearly free. September.

DWARF PALATINE AND PEARL

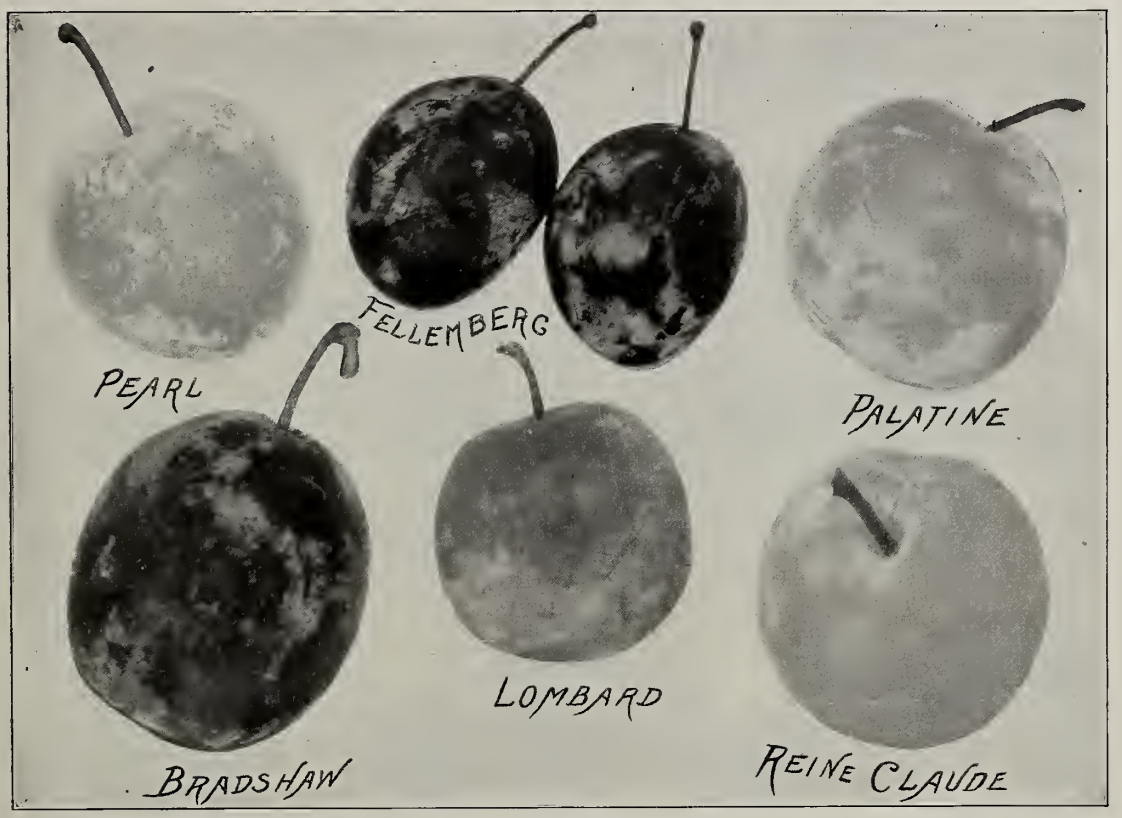
75c each, $7.50 per dozen

Palatine—Fruit very large, roundish oval, greenish yellow, mottled and blushed on the sunny side; flesh golden yellow, juicy, firm, sweet, and with a very pleasant flavor. High quality. Midseason.

(Note—This plum is an "old settler" being brought in 1760 from Germany to what is now Columbia County this state. The owner moved to Schoharie County taking the tree and naming it Palatine. It is very common throughout Schoharie and Montgomery Counties, where it has the reputation of being practically immune to black knot; but so far as I know it has been offered by no nurseryman until we offered it two or three years ago, growing the trees from buds obtained from the Experiment Station. W. L. M.)

Pearl—Fruit large, roundish oval; color golden yellow, obscurely striped and splashed with dull green, mottled; flesh deep yellow, juicy, firm, very sweet. Quality **very best;** midseason.

(Note—As compared with Palatine this plum is a tenderfoot being one of Burbank's productions, a fortunate cross between Agen and one of the Reine Claude group of plums. Hedrick in his Plums of New York says: "In the mind of the writer and of those who have assisted in describing the varieties for the Plums of New York, it is unsurpassed in quality by any other plum." W. L. M.)



STANDARD PLUM TREES

Plant 16 to 18 feet apart each way. The plum is a heavy feeder, and will stand plenty of fertilizing. It does best on our rich, deep loams, with clay sub-soil.

Price of Standard Plum Trees, except as noted, cash with order

2 and 3 year trees	Each	Per Doz.	Per 100	One year trees	Per 100
Extra size, 5–7 ft.	40c	$4.00	$30.00	About 3–5 ft	$20.00

Prices on large orders smaller sizes quoted on application. Be sure to state varieties wanted and number of each.

Price of Standard Palatine and Pearl, 50c each, $5.00 per doz., $35.00 per 100.

We have in standard plum trees all the varieties described on the preceding page as dwarfs.

Plums are not half appreciated. Had you lived in Des Moines with me fifty years ago, you would like plums—you'd better have liked them then! for they were about the only fruit a civilized person could find out there at all fit to eat. Of course we boys who disdained the things of civilization,—we little savages—could find other forage in the woods, from the little green wild crab that could teach the persimmon how to pucker, and the little red, insipid "thorn apple," and the foxy, wild grapes, down to the mandrake and "slipp'ry ellum" as a last resort for material to feed the small boy's appetite. But of all the tribute which the woods rendered to us, the wild plum was easily Queen. It was the recollection of those wild plums, recalled to me years after, that lured me into planting my first big orchard of 3500 plum trees.

I haven't tasted one of those wild plums in a half century—and I don't want to. I presume that now, compared with the Pearl or Reine Claude, they would taste about like a Kieffer as compared with a Comice; but the boy who spent the four years from seven to eleven right next to those woods where the plums grew, had not acquired that cultivated taste which the years so unfortunately bring us, and much prefers to retain his boyhood memory of how good they were rather than to risk discovering how poor they are.

One of the most interesting orchards to visit here is the variety plum orchard of the Experiment Station, where they have about 150 kinds of plums in bearing. As plum varieties mature more nearly together than apples and pears, a visit almost any day during the season will show you 25 to 50 varieties just right to sample. You will find here all the extremes of size, shape, color and quality, and if you can get away without planning to have trees of about twenty different varieties you have just tried, you are no fruit enthusiast.

For commercial varieties, the Reine Claude, Damsons and Prunes are most in demand; and while lower in price, the Lombard and Burbank often net greater returns because of their enormous bearing proclivities.

Our selection of varieties, however, is made more with reference to the home garden, and is as well suited to the garden, covering all seasons and uses, as any selection that could possibly be made. W. L. M.

DWARF PEACH TREES

Prices of Dwarf Peach Trees, except as noted, cash with order. 30c each, $3.00 per doz., $20.00 per 100.

C. C. McKay Inspecting Block of Dwarf Peach Trees.

Abundance—This is a strain of Alexander selected by us several years ago, which seemed so superior to all the others in size and bearing qualities, that we have kept it distinct under this name. Second week in August. **Price, 50c each, $5.00 per doz.**

Belle of Georgia—A very large peach of exceptionally high quality, with white skin and flesh and handsome, red cheek. September first to fifteenth.

Carman—Large, resembling Elberta in shape; pale yellow overspread with a deep blush; flesh tender, very juicy, fine flavor. August.

Chair's Choice—A large size, yellow peach with red cheek; flesh yellow, firm. Follows Willett, and several days earlier than McKay's Late.

Champion—Very long season and very good. Creamy white, without blush; **freestone.** August.

Crawford's Early—It seems unnecessary to describe this fine old variety. Its large size, fine rich yellow color with red cheek and the high quality of its rich yellow flesh, have made it the basis for comparison in excellence of all varieties which conform more or less to its chief characteristics. The Crawford "type" of peach is so well recognized in the market, that those peaches which come later and are of this general type of peach, have succeeded best as commercial varieties. Two striking instances of this occur in the Willett and Lamont. First of September.

Dwarf Peach Tree trained to double U-form: result of first season's training only. This is only one tree, there are four stakes to support the upright shoots that might be mistaken for trees.

Crawford's Late—Large, yellow with red cheek; flesh yellow, quality high for so late a variety.

Crimson Beauty—A dainty little dessert peach of which we are the only growers. It originated right in the city of Geneva. The fruit is handsome although of only medium size, being a solid dark crimson in color; and its quality is equal to its appearance. This is a superb variety and will reward a trial. **Price, 50c each, $5.00 a doz.**

Crosby—Medium size; yellow, splashed with crimson; flesh yellow, good quality. **One of the very hardiest varieties.** Middle of September.

Elberta—Large to very large; fruit somewhat elongated, flattish; flesh yellow, firm, not very juicy nor of high quality, but without doubt is the most **popular market variety of today,** on account of its **great productiveness,** uniformly **large size, handsome appearance** and **remarkable shipping qualities.** It follows Early Crawford.

Eureka—We have watched this variety for years both in the Experiment Station orchard and our own trial orchard, and besides being a good size, yellow freestone peach, it is one of the 4 or 5 best and most constant bearers in our entire trial orchard. We grew this ten years ago and dropped it before we really found out how good a variety it is. Very long season, the heavy week being third week in August. **Price, 50c each, $5.00 per dozen.**

Fitzgerald—A new, medium to large size, round peach, same season as Early Crawford. Yellowish green with a decided cheek, yellow flesh and fine quality. It is hardy and very productive, and has sprung into favor very rapidly.

DWARF PEACH TREES—Continued

Prices of Dwarf Peach Trees, except as noted, cash with order. 30c each, $3.00 per doz., $20.00 per 100.

CRIMSON BEAUTY

Foster—A large, yellow peach with red cheek, quite similar to Early Crawford, but larger.

Greensboro—Claimed to be the largest of the very early varieties. Fine color, rich white flesh, **season as early as Abundance and freestone when fully ripe.**

Hill's Chili—Medium size; dull yellow with more or less red cheek, skin very thick and tough with very heavy down; flesh yellow, not very juicy, exceedingly rich, very firm, stands handling and shipping well. **Highest quality when canned.**

Lamont—A large, new peach, fast taking its place in the commercial list. The description of Early Crawford is a description of this variety, except that the **Lamont is freer from injury in the bud, from specking in the fruit, and in every way more resistant to similar faults.** Its heavy week follows Elberta. **Price, 50c each; $5.00 per doz.**

McKay's Late—An extremely late variety originating on our farm about 15 to 18 years ago. We have picked this variety as late as Oct. 23d. Picked perfectly green and hard. Oct. 16th, it carried for ten days and ripened to perfection. Skin greenish yellow, with a red cheek in the sun; medium large to very large, rather flattish in shape. The flesh is yellow, of good quality, and—here comes in its most striking characteristic—**it is every bit as juicy as an Early Crawford.** About all the very late peaches are dry and mealy; **there is no juicier peach grown than McKay's Late. Price, 50c each, $5.00 per doz.**

Mountain Rose—A large, early freestone peach, yellow nearly covered with a rich crimson; flesh white and excellent quality. Follows Abundance and Greensboro, a week or ten days before Early Crawford. This is a very **old variety which for the last ten years has been regaining its popularity.**

Niagara—A large, new peach, native of Western New York said to be of fine quality and a great bearer. Judging by demand for trees no new variety has been so quickly taken up by peach growers.

Old Mixon Free—Large, yellowish white, with red cheek. Is a hardy, productive variety of fine quality. Middle of September.

Salway—Medium to large; yellow with rather dull red cheek; flesh deep yellow, rich in quality but rather dry. October.

Smock—Large, light orange yellow with red cheek; flesh yellow, rich; a splendid old, late variety. Oct.

Steven's Rareripe—Medium size, high color, very productive, good quality. First of October.

Stump—Very large; creamy white, with bright red cheek; flesh white. Last of September.

Waddell—A heavy cropper, especially while young Fruit medium size, creamy white with blush; flesh white, very good. Midseason.

Willett—The history of this Crawford type peach given in the "Year Book" of the U. S. Department of Agriculture for 1902, reads like a romance.

Among all yellow fleshed peaches **without exception,** this variety, in respect to flavor and quality, stands **at the very top.** Its season following Lamont, its great size, unusual beauty and its exceptional quality, all unite to make it probably **the choicest peach introduced during the last generation. Price, 50c each, $5.00 per doz.**

Yellow St. John—A large yellow peach of the Crawford type, ripe during the last week in August. An unusually juicy, fine flavored peach, excelling the Crawfords in both hardiness and productiveness.

W. J. McKay showing Dwarf and Standard Peach trees.

STANDARD PEACH TREES

We grow our peach trees by budding on seedlings from pits of the natural fruit that grows in the mountainous regions of the South. These naturals are much more hardy and free from all the usual peach troubles and so get a healthier and hardier tree than is grown from pits of the cultivated varieties.

In growing peach trees we renew our buds every three to five years by taking buds from bearing trees in some of the best orchards in the state, so as to avoid as far as possible the danger of mixture in varieties which is so easy to occur when they are grown from buds cut year after year from the nursery rows, without this renewal from stock that is known to be true.

We renewed all our varieties by budding from bearing trees in 1914.

We offer in Standard Peach Trees all the varieties named and described under Dwarf Peach Trees on the last two pages. The descriptions there of course will be the same for the Standards.

PRICES OF STANDARD PEACH TREES, except as noted, cash with order

	Each	Per Doz.	Per 100
Extra size, about 4–6 ft	20c	$2.00	$12.00
Regular size, about 3–4 ft., not less than twelve trees of one variety		1.50	9.00
Medium size, about 2½–3 ft., not less than twelve trees of one variety		1.00	6.00

If less than twleve trees of a variety of standard peach trees are desired, it will be necessary to order the extra size, as in the regular and medium sizes we do not sell less than twelve trees of any variety. This rule will be strictly adhered to on these smaller sizes.

50 or more peach trees take the hundred rate in all sizes.

PRICES OF ABUNDANCE AND LAMONT

	Each	Per Doz.	Per 100
Extra size, about 4 ft. and up	30c	$3.00	$18.00
Regular size, about 3–4,ft. not less than twelve trees		2.00	12.00
Medium size, about 2½–3 ft., not less than twelve trees		1.50	9.00

PRICES OF CRIMSON BEAUTY, EUREKA, McKAY'S LATE, WILLETT

	Each	Per Doz.	Per 100
Extra size, about 4 ft. and up	40c	$4.00	$24.00
Regular size, about 3–4 ft., not less than twelve trees		3.00	18.00
Medium size, about 2½–3 ft., not less than twelve trees		2.00	12.00

THE PEACH—HISTORICAL

Prunus Persica, the peach, was not always known on our continent. Its original home was China. It was cultivated by the ancients in that country and was undoubtedly a favorite dessert of Confucius. Gradually the culture of this luxury was extended westward by introduction from one country to another, passing through Persia whence the species name "Persica" is derived. Later when the Persians invaded Greece, Xerxes may have carried a helmetful of peach pits to plant in the new possessions he hoped to gain. If he didn't, at least some one did; for the peach has long been known in southern Europe.

During the sixteenth century the Spanish explorers brought to North America various seeds, among them peach pits which found congenial surroundings; and the trees so planted in the early settlements spread through the forests of southern United States and ran wild over large areas. The little Indian boys probably stole peaches three hundred years ago from the trees of the first settlers. To this day the southern wild peaches afford the pits from which our own vigorous seedlings are grown for budding.

During Colonial days the peach was less important commercially than for its contributions to the garden of your great-great-grandfather and of mine. The varieties they planted are practically unknown in our orchards at the present time. Their peaches were luxuries grown only for local use. There was, in fact, no way to ship perishable fruits. Quality and appearance dictated the value of a variety. One variety, the "American Heath" peach was described in 1803. The writer, describing its size, wrote, "Many of them weigh a full pound;" a doubtful sounding compliment, but evidently intended seriously.

These early peach trees were grown from pits; but as budding became better known it was employed more and more for the propagation of definite varieties. Now for the last fifty years plantations of unbudded trees have been exceptional. From 1870 to 1890 a good many peach orchards were set in the various northern states with such varieties as the Crawfords, Mountain Rose and Salway.

During the '70's someone received from China a peach called the Chinese Cling. Itself of little value, this peach produced during the '90's several seedlings which have been most extensively propagated and which today supply at least three-quarters of this country's peach crop. Most important of these is Elberta. This great peach, originating in Georgia, has become the leading commercial peach wherever it can be grown. I have seen Elberta in New York and I have seen it in Texas; and in the two extremes of latitude it was the same firm, large, handsome yellow peach.

A group of Chinese Cling seedlings which are white like their parent contains several varieties which in some localities excel Elberta in value. Greensboro, Carman, Champion and Belle of Georgia ripen in the order given; and by their delicious quality and blushing charm they have compelled a welcome in a market formerly distrustful of any peach not as yellow as a sunflower. Champion lacks its sisters' coloring. It is a large, delicate white fruit, hailing from Illinois. The others came respectively from North Carolina, Texas and Georgia. Strange to say, these four peaches are exceptionally hardy, as is Waddell, another popular member of the group. Their young wood and buds will survive heavy freezing such as would put Crawfords on the brushpile. Our own new peach plantings comprise Belle of Georgia and Greensboro, which as yet have not been injured by over 20 degrees below zero. At Geneva we can get fine crops from these varieites even on our heavy soil with underlying clay.

For orchard plantings in cold regions in New England and other northern states where people tell you "you can't raise peaches," try these hardy white kinds or the still hardier yellow ones, Crosby, a Massachusetts peach, Hill's Chili and Fitzgerald, all of good quality and acceptable to the peach market. Hill's originated in New York and "Fitz" in Canada.

In the little garden planted for the family to eat from and for "Dad" to putter in, he wants a sequence of varieties chosen for quality; Abundance, white, ripening in middle August; Waddell, a little later; Foster, yellow with a glorious dark scarlet cheek; Champion, Early Crawford, Old Mixon, Crimson Beauty, a little peach that looks like a Titian sunset and tastes better; Willett, a most ingratiating yellow peach; winding up in October with McKay's Late, which is unequaled for its season whether cooked into marmalade or cut up with sugar and cream. These nine varieties will supply a continuous stream of enjoyment for as many weeks, which home canning of Early Crawford or McKay's Late may extend into winter and spring. Epicurus, himself, might well envy the planter of such a garden and be glad that the peach is excepted from the list of Asiatics debarred from citizenship in this country.

JUNE RASPBERRY—Postpaid

Without doubt the Lord can make a better red raspberry than **June,** but He never has. Since first seeing this berry on the State Experiment Station grounds six or eight years ago, it has impressed me more favorably each year I have seen it. Compared with all the leading commercial varieties as I saw them together on the grounds of one of our largest commercial growers at Geneva last summer, it easily led the entire list. Cuthbert for a generation has been the standard of excellence for home and market red raspberry; let us compare June with this variety; in size, **June** is very much larger; it is fully as good color, fully as firm, and I think it no exaggeration to say that it will **outyield Cuthbert two to one.** I did not think it quite up to Cuthbert in quality, but others in the party, the day we visited this place, thought otherwise. I have always been a strong Cuthbert man however, and find it hard to acknowledge that any other berry can quite equal this good old standby in flavor. As I saw it that day **I am ready to say that it is the best red raspberry that has yet been introduced.**

June is one of the new seedlings brought out by the New York Agricultural Experiment Station at Geneva, and our plants are from stock sent out by them a few years ago. In Bulletin Number 346 issued by the Station in July, 1913, on **"New and Noteworthy Fruits,"** by Prof. U. P. Hedrick, Horticulturist, this variety is given a prominent place. I can give no more conservative idea of June than to quote entire Prof. Hedrick's official statement as to this variety, which I do below:

"JUNE has been tested long enough in different parts of New York to fully determine its value. Reports received indicate that it is quite equal and often superor to the best older varieties. It is worthyi of extensive planting on account of several remarkable characteristics of both plant and fruit. The plants are as hardy and as healthy as those of its two well known parents, Loudon and Marlboro, and are more vigorous. But comparatively few suckers are produced and these are little crowded and are thus better able to mature their crop. The yield is heavy and is well distributed over a long season, which begins the earliest of any of the 70 varieties growing at this Station, ripening as no other raspberry does, in June, hence the name. The fruit resembles Loudon in color, a bright, handsome red and averages larger than Cuthbert but is more spherical. June ships and holds up in size unusually well throughout the season. Last, but by no means least, June is high in quality. We expect to see this variety become one of the most profitable red raspberries grown.

"June is the result of a cross made on the Station grounds in 1897 between Loudon and Marlboro. From this seed, 338 plants were secured, one of which, after fruiting for several years, was named 'June, and in 1909 was disseminated among raspberry growers.

"Plants more vigorous than either of its parents, upright, few suckers, hardy, very productive, healthy; canes stocky, nearly smooth, roundish, often with considerable bloom; spines straight, of medium thickness, short, few in number and distributed almost entirely near the base; season of bloom June 2 to June 9 in 1912. Fruit matures very early (June 28 to July 16 in 1912), season long, keeps and ships well, adheres well to the bushes, easily picked; berries very large, and holding their size unusually well until the close of the fruiting season, firm, with large drupelets, bright, handsome red resembling Loudon, mild, sub-acid of good flavor.

We are indebted to Mr. O. M. Taylor, Foreman in Horticulture at our State Experiment Station, for the photograph of one of the original June bushes on the Station grounds, from which this engraving was made. A close inspection will show the enormous crop this variety produces.

JUNE RASPBERRY—Postpaid

Prices: 25c each, 50c for 3, 75c for 6, $1.25 for 12, $2.25 for 25, $4.00 for 50 and $7.50 for 100.

6 JUNE AND 6 ST. REGIS FOR $1.25. 12 PLANTS OF EACH $2.00

ST. REGIS EVERBEARING RASPBERRY—Postpaid

Prices: 25c for 1, 50c for 3, 75c for 6, $1.25 for 12, $2.00 for 25, $3.50 for 50 and $6.00 for 100.

The St. Regis is a berry that has attracted much attention the past few years. Like most other new varieties it has had the usual amount of extravagant claims made for it, but after several years since its introduction it seems to have settled down into its rightful position as a valuable acquisition to the family of red raspberries.

It bears a good crop at the usual time for raspberries, which continues into August. By this time the young canes which in other varieties do not bear till next year, commence to bear and are in constant fruiting till about the middle of October.

I believe it is worth trying, and we have added a moderate planting of it to our other varieties.

6 JUNE AND 6 ST. REGIS FOR $1.25; 12 PLANTS OF EACH, $2.00.

HERBERT—A grand, new, red variety—Postpaid

Prices: 60c for 6, $1.00 for 12, $1.50 for 25, $2.50 for 50, $4.25 for 100.

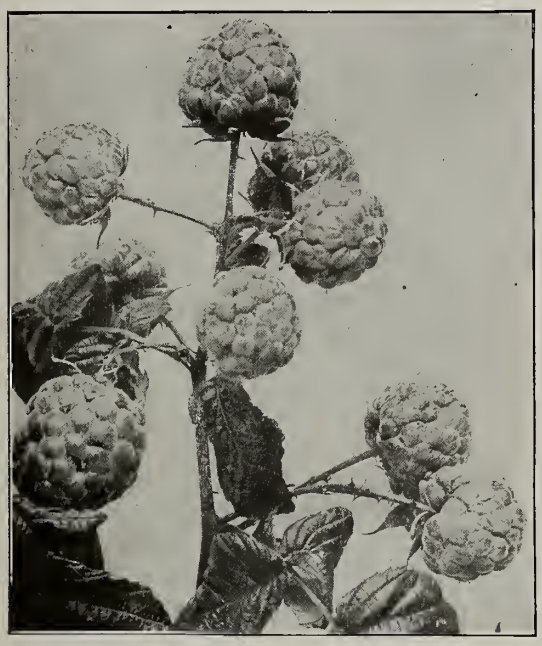
We have fruited this variety commercially, for three seasons. I have always shouted for Cuthbert, so naturally compare Herbert with it as I do June. Herbert is a little larger than Cuthbert, a little darker in color, a trifle earlier perhaps, and while good in quality, hardly up to Cuthbert. The Experiment Station's experience with Herbert and Cuthbert for two years gave Herbert two quarts to Cuthbert one, and my own experience is practically the same. This one difference is a vital one in favor of Herbert. It is certainly a great berry but in my opinion not up to June. It is enough later than June to pair well with it however, either for the large planting or for home use.

RASPBERRIES

POSTPAID.

Our plants are tied in 6's, 12's and 25's, please order in these numbers or their multiples, except where single rates are given. Rows 6 to 7 feet apart, plants 3 feet apart in the row. In the garden much closer planting is allowable. Each fall or winter cut out the old canes which bore fruit the preceding summer. Next year's crop comes from the new canes formed the preceding year.

Prices, POSTPAID, of all varieties on this page, unless otherwise noted. 30c for 6, 50c for 12, 75c for 25, $1.25 for 50, $2.25 for 100. If you have other plants or trees going by freight or express, we reserve the right to send berry plants with them.



PLUM FARMER

BLACK RASPBERRIES

Cumberland—A comparatively new variety, but testing out as a really great one, and it must be a great one to vie with the Gregg in excellence.

Gregg—It seems to us that this old standby is the best of the later black varieties. Honors would probably lie between this and Cumberland. The latter, however, is a jet black variety, while Gregg has a heavy, whitish bloom, and is a very attractive, delicious berry. Plants somewhat lighter growers than Cumberland.

Plum Farmer—In a class by itself—it is **the Early Black Raspberry,** without an equal, and one that should be in every garden. It has quality, productiveness, hardiness.

PURPLE RASPBERRIES

Columbian—A cross between two high quality berries, Cuthbert and Gregg, Columbian fully sustains the reputation of both its parents. Purple berries are apt to run larger than reds and blacks, and this is one of the largest. One of the greatest berries for commercial growing and for home use fresh or canned. Plant an extra strong grower.

(Note—To one accustomed to the bright red varieties, the duller, purple varieties appear unattractive. I have myself run a fruit wagon and peddled thousands of quarts of berries. I have many times persuaded a half unwilling housewife to try a crate of Columbian for canning, and in most such cases she **came back the next year for the Columbian for canning.** It is unsurpassed as a canning berry. W. L. M.)

Royal Purple—A new variety which is very highly spoken of and certainly seems more than worthy a trial. It goes well with Columbian as the bulk of its crop follows Columbian about two weeks. The plant is very vigorous, the berries large and hold up well; the quality leaves nothing to be desired. **10c for 1, 25c for 3, 40c for 6, 75c for 12, $1.25 for 25, $2.00 for 50, $3.50 for 100.**

RED RASPBERRIES

Cuthbert—It is distinctly the "Quality" variety. Also a good commercial variety, but not so heavy a producer as Herbert. The latest of all the red varieties we list, except St. Regis.

Marlboro—The earliest variety of these four; short and rather poor grower, but extremely early and remarkably good quality for so early a variety.

Ruby—Very early, a little after Marlboro of which it is a seedling; a better grower and yielder, and, everything considered the better berry of the two. We regard it as the best early variety.

YELLOW RASPBERRIES

Golden Queen—Commercially worthless. An interesting addition to a garden, however, and the variety here offered is the best one of the very few yellow kinds that have ever been grown. This is a good grower, a good yielder, its quality is first rate, and it has a very long bearing season.

60c for 6, $1.00 for 12, $1.50 for 25, $2.50 for 50, $4.25 for 100.

ROYAL PURPLE

GRAPE VINES

POSTPAID

If you have other plants to go by express or freight, these will be shipped with them.

Grapes like a warm, loose, well drained soil.

Plant in rows six to eight feet apart and six to twelve feet apart in the row, according to the habit of growth of the variety. For garden culture of course it is customary to plant much closer, according to the room one has.

At planting cut back to three or four buds, of which but the strongest should be allowed to grow. The second year this cane should be cut back to the same number of eyes as at first. This pruning is to simply delay bearing one year longer and let the plant become established and strong.

Allow only the two strongest canes to grow, these the following year being attached to the lower wire of the trellis and becoming the arms shown in figs. 1 and 2, from which each succeeding year canes are allowed to grow to bear the season's fruit. The winter following fruiting, these canes that bore the last crop are cut back to within two or three buds from the arm, and the next spring one bud is allowed to grow from each joint. In trimming always develop the fruit shoots or canes from a point as near the arm as possible so as to keep the "spurs" shown in fig. 1 as low down as possible.

In all grape trimming bear in mind this one thing—**that the fruit is borne at the base of this year's shoots that come from wood formed last year.** Applying this general principle you can train a grape up to a stake and plant quite closely for garden culture, and still trim your vine so as to get the best results, making it into a trunk from which bearing wood is kept growing the same as in the method described above. Fig. 1 shows the vine as properly trimmed during the winter, and fig. 2 the same vine in fruiting the following fall.

Fig. 1

Fig. 2

WHITE OR GREEN VARIETIES

Diamond (Moore's Diamond)—One of the very good white varieties, probably next to Winchell in quality. Berry and cluster good size, vine hardy and productive in most localities. **Of Concord parentage, 20c each.**

Empire State—A productive white variety, a little earlier than Niagara. Probably higher in quality but lacking in the size, vigor and market adaptability that so strongly characterizes Niagara. A little tender in some localities. Worthy of a place in every collection. **20c each.**

Niagara—A vigorous variety ripening about with Concord, exceedingly productive, and, while its quality is moderate as compared with most of the other best varieties, its great size and beauty both of cluster and berry, together with its long keeping qualities, have made it one of the leading grapes in all our markets. This is also of **Concord parentage,** and holds about the same place among white varieties as Concord does among the purple sorts. **20c each.**

Winchell (Green Mountain)—This charming variety needs no better recommendation than the note appended quoted from Hedrick's "Grapes of New York." **30c each.**

(Note—"Winchell is at once very early and of very good quality, characters seldom found combined in grapes. * * * There are some minor faults, too, which under some conditions become drawbacks to the culture of Winchell. * * * These defects do not begin to offset the several good characters of Winchell, and it is, for New York at least, the standard early green grape and deserving to rank with the best early grapes of any color."—Hedrick.)

GRAPE VINES—Continued

POSTPAID

RED VARIETIES

Agawam—A late, dark red, large grape in very loose clusters, with a most delicious musky flavor peculiar to some of the Rogers varieties. You will find this a very satisfactory late grape. **20c each.**

Brighton—A bright red variety averaging large berries and clusters; generally regarded as of highest quality, without doubt being one of the best red varieties. **Has Concord blood. 20c each.**

Catawba—A very late, red grape, large in both berry and cluster, a great keeper, and one of the great quartette with Concord, Delaware and Niagara, that make up the great bulk of the eastern grape output in this country. This is the oldest of all our varieties, being traced back about a hundred years. **20c each.**

Delaware—Also a very old variety of unknown parentage. A very small berry, cluster small to medium but extremely compact. Considered the highest quality of any grape grown by American nurserymen. Earlier than Concord. **20c each.**

BRIGHTON

BLACK VARIETIES

Campbell Early—One of the best of Concord's grandchildren, being a seedling from Moore Early. Extremely large clusters of large berries, a dark purplish black. This was brought out by Geo. W. Campbell of Delaware, Ohio, who has done as much for grape culture in the United States as any other one person. Fruited first in 1892. Is notable for its size, high quality, hardiness of vine and good shipping and keeping qualities. Is two weeks earlier than Concord. **30c each.**

[NOTE—"The preeminently meritorious qualities of Campbell Early are: High quality when mature; freedom from foxiness and from acidity about the seeds; small seeds which part easily from the flesh; earliness of maturity, ripening about a fortnight before Concord; large size and attractive appearance of bunch and berry; comparative hardiness of the vine; and good shipping and keeping qualities. It falls short chiefly in not being adapted to as many soils and conditions as are some varieties with which it must compete. In other words it is somewhat lacking in that elasticity of constitution so characteristic of Concord. Its reputation for quality has suffered, and to the detriment of the variety, because it attains its full size and color before it is ripe, and is therefore often marketed in an unripe condition."—Hedrick.]

Concord—This is today one of the best known of the "Forty Niners." When we know that probably 75% of the grapes in New York State are of this variety, and that it is ancestor to Diamond, Niagara, Campbell, Moore Early, Worden and Brighton, it makes us realize what a really wonderful grape it was that Ephraim Bull first fruited in 1849. When you visit Concord, Mass., go and see the old Bull Cottage and the vine which the Jehu who drives you out there, will assure you is **the original** Concord vine. **15c each.**

Moore Early—Long one of the standbys for a good, early black variety. A **seedling of Concord,** some two or three weeks earlier. In this and Campbell the grower has two wonderfully fine early black varieties. **20c each.**

Worden—Another seedling of Concord, and for quality it is probably the best of them all. I do not regard it as a good commercial variety—it shells too easily—but while it is in season I know no grape that is so satisfying as the Worden. At least a week earlier than Concord. Berry and cluster both large enough. **20c each.**

BLACKBERRIES POSTPAID

Our plants are tied in 6's, 12's, and 25's; please order in these numbers or their multiples. Plant in rows 6 to 7 ft. apart, plants 3 ft. apart in the row. Each winter cut out the old canes. **Prices, Postpaid, except as noted. 30c for 6, 60c for 12, $1.00 for 25, $1.75 for 50, $3.00 for 100.** If you have other stock to go by freight or express, these will be shipped with them.

BLOWERS ANCIENT BRITON

Ancient Briton—A vigorous, stocky, hardy variety, very productive; fruit medium to large, rather long, with odd black color; quality good; a fine berry for the home garden, and is also considered a standard commercial variety.

Blowers—A few years ago I planted a row or two of this variety and have since been selling it, not giving it my endorsement but merely stating what the originator claimed for it. We have had fruit from it the last two years and after its showing the present year I feel fully justified in recommending it most highly. The plant is an unusually strong grower and is perfectly capable of bearing and properly maturing the large crops which it gives. The fruit is unusually free from the hard seedy character of so many blackberries, being similar to the Agawam in this respect. I regard it as one of the very best varieties of blackberries of the many that we have grown.

This variety seems also to have something of the everbearing qualities similar to the St. Regis Raspberry. You make no mistake in planting the variety commercially or for home use.

Price, 50c for 6, $1.00 for 12, $1.50 for 25, $2.50 for 50, $4.25 for 100, postpaid.

Mersereau—A seedling of Snyder, hardy, very vigorous, healthy, fruit above medium to large, slightly elongated, handsome black color, juicy, sweet and good quality. Has a good record in many parts of the state, seeming to have the good qualities of its parent without its defects. Early.

Rathbun—Is not quite hardy enough for Geneva winters. Fruit mediun to very large, slightly elongated, attractive black color, good. Is only moderately vigorous and productive here. It is of Delaware origin, and from all evidence in regard to it we are inclined to think it will prove a valuable berry in a climate more suited to it than ours. Late.

Snyder—An old standby, enduring cold that puts about all the rest out of business. It is only medium size, must be fully matured on the bush, when it is juicy, sweet and good. It is very vigorous, and very productive. Late.

Taylor—Canes light colored, very vigorous and hardy; fruit medium, elongated, sweet, good flavor and quality. Two weeks later than Snyder, but is not so productive and probably inferior to it as a variety, in most localities.

GOOSEBERRIES POSTPAID

Prices, except as noted, 15c each, $1.50 per doz.

Industry—An English variety best adapted to our climate of all, but still somewhat liable to mildew; fruit very large, good for culinary use when green and a fine dessert fruit when ripe; a brilliant, showy red berry, handsome and wonderfully productive. This should be in every collection. **20c each, $2.00 per doz.**

Downing—Fruit medium size, roundish, light green, smooth; flesh soft, juicy, and good; vigorous and very productive.

HOUGHTON PEARL

Houghton—Fruit almost medium size, smooth, red, tender, very good; a good cropper.

Pearl—Similar to Downing, plant a stronger grower and berry larger, and a heavy producer. Immune from Mildew. A new variety which has made an enviable reputation.

Smith's Improved—A more slender grower than Downing, but an exceedingly fine quality, yellowish-green berry, following Downing in season. Is much less thorny than any of the other varieties.

RHUBARB

POSTPAID

McKay's Mammoth

A strong growing, very tender and mild Rhubarb. Their growth in spring can be forced to four inches a day by knocking out the heads of a barrel and putting it over the plant. For winter use, take up big roots in the fall, pack **close together** with very little soil in cellar under a window. It is a great winter delicacy and will sell for not less than 5c a stalk. **25c each, $2.50 per dozen, postpaid.**

PERFECTION

CURRANTS TWO-YEAR PLANTS

Postpaid at the single and dozen rate.
10c each, $1.00 per doz., $7.50 per 100, except as noted

Cherry—Very large, deep red berries, in rather short, heavy clusters, acid; plant very vigorous and productive.

Fay's Prolific—Color deep red; great bearer, clusters longer than Cherry and more thickly borne on the branches. Sweeter than Cherry, higher quality and several days earlier.

Perfection—New, a cross between Cherry and White Grape; color bright red, large size, very productive, clusters very long, size of berry being maintained well to the end; quality good. We have this in fruiting—the clusters hang in perfect ropes on the stem. **20c each, $2.00 per doz., $15.00 per 100.**

White Grape—Large, yellowish white, sweet, excellent quality, valuable for table use; vigorous and productive.

White Imperial—A new white currant, quite similar to the last, with larger berries; clear, transparent yellow, very sweet, high quality.

Wilder—Red, and as a commercial variety today **stands at the top.** The plant is vigorous and productive to the highest degree. Like the Perfection, the clusters hang so thick on the bush that there is not room for any more. It is good size in both berry and cluster, good quality and color, firm, a fine shipper, and if **when it ripens you are not ready to pick you can leave it a week or two without deterioration.** It is a wonderful currant.

ASPARAGUS POSTPAID

For commercial plantings wide intervals are desirable, some advocating 5 feet apart each way. Very much closer planting, however, is allowable for gardens, as close as 1 to 2 feet apart. **Plant deep;** this enables you to fork over the entire surface in the spring before it starts up. **Feed heavily;** top dress with manure in the fall and fork it in the following spring.

Price of all varieties of asparagus, post paid, 50c for 25, 75c for 50, $1.00 for 75 and $1.25 for 100.

McKay's Giant—This variety is from a chance seedling or strain which occurred in a plantation of Giant Argenteuil Asparagus grown by a New Jersey grower many years ago. He propagated from this and set out 12 acres. He described it as to color and quality practically the same as the parent, but reports it to be a very much stronger grower, and one season his net return from 12 measured acres was $6,446.35. It is a green variety like Conover's and Palmetto. Its great value, however, is in its wonderful productiveness. The cut shown here is from a photograph, very much reduced, sent me by the originator, and it was with his consent that I named it **McKay's Giant.**

Conover's Colossal—One of the old standard varieties of green asparagus, prolific and of good quality.

Palmetto—A new green variety, generally proving more productive than Conover's.

McKAY'S GIANT ASPARAGUS

STRAWBERRIES POSTPAID

EVERBEARING VARIETIES

I have held off from offering these plants which I have always held as rather of a "freak," till fruiting them myself. They are interesting and worth the amateur's trial. They make few plants and are therefore expensive, but the strength that usually goes into runners in the ordinary kinds of strawberries, in these varieties goes into strength of plant and fruit. They should be kept in hills of just a single plant, and will form immense big plants, with very heavy foliage, each of which will give a good crop of fruit. To give you fall fruit, however, to amount to anything, **you must pick off the May blooms:** they will bear you otherwise a heavy crop in June, and mightly little in the fall, though even then they will keep right on blooming and ripening a little till November. For the best fall results, however, **pick off all bloom up to about August 1st,** then you will get berries from September on that will really amount to something.

We have grown a few Americus, Progressive and Superb for the last two years, and offer Americus which we consider best.

Americus—Very healthy plant and does best on heavy clay soil. It is estimated that 100 plants will give 80 to 100 quarts of fall fruit; I should think this a reasonable estimate, **if early blooms are picked off and the plants highly fed.** Just remember that you can't get big berries on any strawberry plants unless the soil is rich. **$1.00 for 12, $1.75 for 25, $6.00 per 100 for 50 plants or more.**

SENATOR DUNLAP

SUMMER BEARING VARIETIES

Prices, Postpaid. Sold only in multiples of 25. 50c for 25, 75c for 50, $1.00 for 75, $1.25 for 100. Delivered at Express Office in Geneva, properly packed, $1.00 per 100, 50 at hundred rate, $7.50 per 1000.

Strawberry plants cannot ever be shipped by freight as they will heat and spoil.

Plant in rows 3 to 3½ feet apart and 12 to 18 inches apart in the row, or keep them in hills, 1 to 2 feet apart each way. For varieties of strawberries, we have selected the following for their general excellence, taking into consideration their size, color, firmness, productiveness and high quality, and the fact that nearly all seem adapted to most localities. Two of the varieties, Chesapeake and Prolific, appear in the State Experiment Station's Bulletin No. 364 on New or Noteworthy Fruits, with words of high praise. Of the others listed five are from the 31 best varieties named in a recent Experiment Station circular on Strawberries, and Dunlap and Marshall, with Chesapeake and Prolific, are among the eight of the 31 that did best, in the opinion of the writer of the circular. Brandywine, Glen Mary and Steven's Late are among the thirty-one. Every variety named as well as all the Everbearing kinds have perfect flowers.

Strawberry plants are not ready for shipment till toward the end of April. Therefore, do not expect your strawberry plants to come in the same package as your other plants or trees, but they will be mailed to you at the proper time. If you have other stock to come from us at a time when the strawberries can be sent, we reserve the right to send them by express with you other stock, f. o. b., Geneva.

Brandywine (Late)—Standard, foliage good, fruit large, dark red.

Chesapeake (Late)—A new variety making few plants, berries glossy red, large, firm, productive, very choice.

Gandy (Late)—A large berry of good color and quality, firm, a good shipper.

Glen Mary (Mid-season)—Standard; does not succeed on all soils.

Marshall (Mid-season)—A strictly fancy variety; color and flesh very dark red, quality highest. Is not a heavy cropper, but fruit is large to very large.

Pride of Michigan—A large handsome variety of fine quality and a good shipper.

Prolific (Mid-season)—A new variety and one of the best; productive, a large, bright scarlet, high qaulity.

Senator Dunlap (Early)—The "Baldwin" among strawberries. One of the best medium sized berries; a dark red, handsome variety. This is one of the hardy kinds that seems able to do well even under adverse conditions. A very heavy yielder.

Steven's Late (Late)—This variety seems to do well on all soils, and is a vigorous grower and good bearer. It has large, bright red berries and flesh of the same color. Its late blooming period makes it fairly safe from late frosts.

William Belt—An old variety, recommended by one very prominent grower as being "the standard for quality till the Chesapeake's appearance." We have grown this here very satisfactorily.

ORNAMENTAL DEPARTMENT

ROSES ROSES ROSES

Trim to a few inches from ground when planted—enrich—give lots of sun—water only till safely started or in severe drouth—get up early and hoe them every day—get the right varieties—then don't worry—YOU'LL HAVE ROSES!

TRIMMING ROSE BUSHES—As soon as received, **trim all roses to within 3 to 5 inches from the ground, unless you see that we have so trimmed them.** The following years, different classes must be treated differently; the Hybrid Teas and Perpetuals, trim **nearly as close as when you planted them;** these kinds bloom from wood that grows the **same year,** and the rule is **keep them growing and you keep them blooming;** severe trimming **will keep them growing.** "Baby" needs little trimming after the start. The other Ramblers, also the Wichurianas, Climbers, and Summer Roses should be trimmed much more moderately than the Teas and Perpetuals, for the reason that **they bloom from last year's growth** and if you cut it all away, you get no bloom.

RAMBLERS, WICHURIANAS

Very strong growers—bloom once a year, very profusely—on last year's wood. Climbing habit.

Blue Rambler—Distinctly bluish. Valuable only as a curiosity. **25c.**

Crimson Rambler—The best all round Rambler rose. One plant will carry thousands of crimson, clustered blossoms. **25c.**

Dorothy Perkins—Beautiful shell pink, the **pretties of all,** free blooming as the Crimson. **25c.**

Yellow Rambler—Very light straw color, all right in an assortment. **25c.**

CLIMBERS

Bloom once a year—on last year's wood.

Baltimore Belle—White with blush center. **25c.**

Queen of the Praire—Bright rose color. **25c.**

SUMMER ROSES

Bloom once a year—on last year's wood.

Madame Plantier—In June the bush is buried under a profusion of snow-white blooms in heavy clusters. Thornless. **25c.**

Persian Yellow—The first to bloom each year. Abundant blossoms, not in clusters, as yellow as a buttercup. A very satisfactory variety. **35c.**

POLYANTHAS

Bloom incessantly from June to November—dwarf habit.

Baby Rambler—A small, deep pink rose, in large clusters. Insures a spot of color in the garden. **25c.**

Clothilde Soupert—Blooms in clusters of double white roses, fragrant and finely formed. The best of its class for cut flowers. **30c.**

White Baby Rambler—Pure white. **25c.**

HYBRID PERPETUALS, HYBRID TEAS, ETC.

All hardy and bloom during the season.

Coquette des Alps—White, later blooms having a decidedly flesh tint; blooms right up to freezing time. The best of the blush white roses. **25c.**

Frau Karl Druschki (Snow Queen)—A new, pure white rose without one weak point. The bloom is very large, not in the least coarse. Buds are long and pointed, very handsome, opening rather slowly. One of the cut flowers in water lasts for days. The fully opened bloom resembles the camelia. Among all roses, if we had to select one best rose, it would be this one. **50c.**

General Jacqueminot—Brilliant crimson; one of the very best. **25c.**

Gruss an Teplitz—This is a most delightful rose—blooms almost as freely as Hermosa and Baby—and of all the **great bloomers listed here is the only deep colored rose.** It is a deep, vivid color, variously described by cataloguers as crimson, scarlet, carmine, red, and all possible combinations of those terms; it's just **Gruss an Teplitz color**—a distinctive color we have never seen in any other rose. The blooms are short lived if picked, having a very slender stem and opening out rather quickly; but it is a most beautiful rose, especially adapted to bedding, and is **more than worth while,** notwithstanding its one weak point. **35c.**

Hermosa—A hardy, pink tea rose, blooms constantly from June till heavy frosts. Next to "Baby" as a free bloomer. **25c.**

Kaiserin Augusta Victoria—A hardy, delicate straw or cream white, hybrid tea, uniting the wonderful beauty and free blooming qualities of the tender "tea" class of roses, with the hardiness and vigorous growth of the hybrid perpetuals. It blooms at intervals clear up to heavy frosts, blossoms last well, are fine in both bud and when open, and if selecting a rose second to Frau Karl in the greatest number of strong features, we should select this. **50c.**

Killarney—Another beautiful hybrid tea having a most delicate flesh pink cast, very long and pointed buds, one of the finest in this respect. A free bloomer all during the season. **35c.**

Madam Gabriel Luizet—One of the very best pink roses. Blooms at intervals during the season. Plant a strong grower, and very hardy. We regard this as one of the very desirable varieties. **35c.**

Madam George Bruant—A fine, white Rugosa rose, with handsome long, pointed buds, quite single when fully opened, but far more attractive than any of the varieties as single as this. A strong grower and blooms throughout the season. **25c.**

Magna Charta—A very strong competitor of the Paul Neyron—a perfectly magnificent pink rose, extra strong grower and fine in all respects. **25c.**

Mrs. John Laing—This is one of the best pink roses of the type represented also by Madam Gabriel, Paul Neyron and Magna Charta. Large, a bright satiny pink, very fragrant and a constant bloomer at intervals, from June till winter. **35c.**

Paul Neyron—Probably the largest rose in cultivation, a fine bright pink, very fragrant, plant exceptionally vigorous. Bloom with a strong stem, lasting a long time after cutting. Blooms the entire season at intervals. **25c.**

Prince Camille de Rohan—This is one of the **great** roses; it is perhaps the deepest crimson of any rose, and is certainly the finest of the extremely dark

roses. Its blooms are large, finely formed, fragrant, and it is a profuse bloomer. **30c.**

Soleil d'Or—Brilliant yellow with salmon heart. Blossoms are few but very beautiful. **50c.**

HARDY, UPRIGHT SHRUBS

Althea, (Rose of Sharon)—A class of thrifty growing, very upright shrubs, blooming in great variety of colors during September and October long after the blossoming season of most other shrubs. We have the following varieties, selected to furnish an assortment of the most beautiful colors.

Ardens—Double. A light reddish purple. **50c.**

Coelestis—Slightly double. Light blue, wine colored at the base of the petals. **50c.**

Duc de Brabant—Double red. A handsome variety. **50c.**

Elegantissima—Slightly double and white. Beautifully marked with wine color at base of petals. **50c.**

Jean d' Arc—A most beautiful double, pure white variety. **50c.**

Rubra—Single red, very large. **50c.**

Totus Alba—Single. Pure white, large. **50c.**

Barberry, Purple-leaved—One of the best purple foliaged shrubs; holds its color well during the season, very handsome either massed or planted alone. **35c.**

Barberry, Thunbergii (Japanese Barberry)—This comparatively new shrub has sprung into popularity with wonderful rapidity, and perhaps stands today in public estimation ahead even of the Hydrangea and Spirea Van Houtti. Rather low growing, spreading habit, its branches, when not checked, growing out in all directions giving it a strikingly characteristic appearance peculiarly its own. Small white blossoms in May, developing into long sprays of brilliant purplish red berries which persist during the winter, very beeutiful. Its glossy, light green foliage changes in the fall to the most brilliant combinations of red, green and yellow, surpassing even the Ampelopsis in its color effect. Well adapted for low hedging, **25c.** Smaller plants for hedging in lots of 25 and over, **$15.00 per 100.**

Cornus Siberica (Red Siberian Dogwood)—Bright red bark in winter. **35c.**

Deutzia Candida—A pure white bloom, strong grower, extremely fine. **50c.**

Deutzia Crenata—Blossoms in June, flowers white with delicate pink shading, in racemes 6 inches long. A very strong grower. Foliage a perfect tea green, holding its color during the season. **25c.**

Deutzia Gracilis—A dwarf variety with pure white flowers in great profusion. **25c.**

Deutzia, Pride of Rochester—Early, vigorous, generous bloomer. Blossoms white, tinged with rose, double. **25c.**

Forsythia—An early, hardy shrub, stems and foliage deep green, blossoms deep gold. **35c.**

Fringe, Purple (Smoke Tree)—A large growing shrub, so named from its brown, thread-like bloom which covers the entire tree, appearing at a distance like a cloud or mass of smoke. **35c.**

Fringe, White—Among the most beautiful of all flowering shrubs for its bloom alone. The entire tree is covered with the most delicate racemes of pure white flowers. **50c.**

Honeysuckle, Red Tartarian—Strong growing shrub with bright pink flowers in May. **35c.**

Honeysuckle, White Tartarian—Similar to above but white. **35c.**

Hydrangea, Hill of Snow—Pure white, very large heads of flowers; a superb new variety. **50c.**

Hydrangea Paniculata—Flowers in very large heads, yellowish white, changing to pink. Blooms last six weeks. Bush form, **25c,** tree form, **50c.**

Lilac—These need no description. We offer urple and white varieties, our selection, at **30c.**

SPIREA, VAN HOUTTEI

Prunus Triloba (Flowering Plum)—A very early bloomer having large, double pink blossoms. **50c.**

Quince, Japan—Blooming very early, its brilliant red blossoms preceding the foliage and covering every branch and twig. **25c.**

Snowball, Common—This needs no description as its large, greenish white, globular clusters of flowers are familiar to us all. **25c.**

Spireas—A class of low, compact, easily grown flowering shrubs, vigorous and hardy as a class, with blossom periods extending over a wide range of seasons. We offer the following varieties:

Spirea, Anthony Waterer—Quite dwarf, with red blossoms. **30c.**

Spirea, Aurea—Grown for its fine, golden foliage only. **35c.**

Spirea, Callosa Rosea—A strong growing, rose colored variety. **25c.**

Spirea, Van Houttei—This is easily Queen of all the Spireas. No one who has ever seen this variety in full bloom can fail to be impressed by its wealth of snowy flowers. About the end of May, the bush is one complete mass of blossoms equaled in its profusion only by the Fringes. Our plants will have some bloom the same year you plant them. We regard this next in value of all the shrubs, to the Japan Barberry. **25c.**

Syringa Garland (Mock Orange)—One of the earliest flowering shrubs with sweet scented flowers, white. **25c.**

Syringa, Golden—Quite dwarf in habit, rich golden foliage, retaining its color perfectly the entire

season. This is by far the finest golden foliaged shrub. **35c.**

Weigela—A fine class of spreading shrubs having rather large, trumpet-shaped flowers. Latter part of June. We offer the following:

Weigela, Candida—Pure white, with a long blooming period. **35c.**

Weigela, Eva Rathke—A beautiful new Weigela with brilliant crimson blossoms. **35c.**

Weigela, Rosea—Similar to last only with rose colored flowers. **25c.**

Weigela, Variegated Leaved—Rather dwarfish, its green foliage edged with silvery white. **35c.**

PAEONIES

After all, with exception of the rose, is there any flower that ever grew that in itself is more beautiful than this "old fashioned" flower? The "Piney" takes us back to our mother's and grandmothers' gardens as does no other flower grown today.

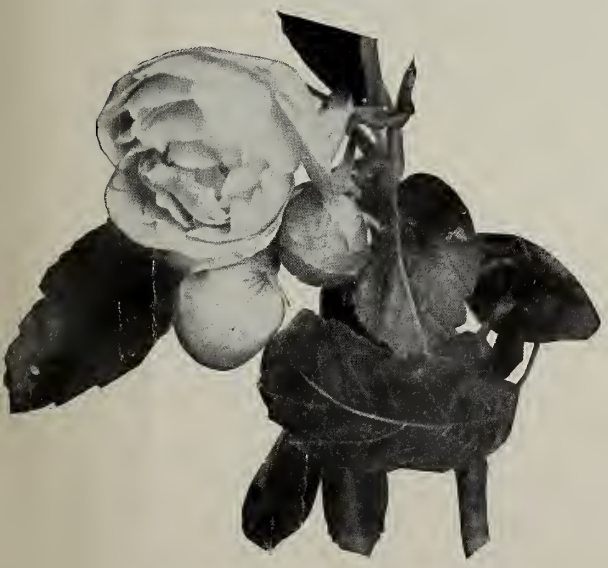
We quote by colors; **pink and red, 25c each, white varieties, 35c each. Three plants, one of each color, 75c.**

HARDY CLIMBING VINES

American Ivy (Virginia Creeper)—Well adapted as a screen on account of its heavy foliage. **25c.**

Ampelopsis Veitchii (Boston Ivy)—Adapted only to stone, brick or cement construction. Without dispute the handsomest foliaged climber grown. Its fall foliage is rivaled only by that of the Barberry Thunbergii. **25c.**

Hall's Japan Honeysuckle—Very fragrant, white flowers, changing to straw color. The best blooming variety of all—blooms all summer. **25c.**



BECHTEL'S CRAB

Monthly Fragrant Honeysuckle—Red and yellow, very fragrant, blooms all summer. **35c.**

Scarlet Trumpet Honeysuckle—Long, slender, red trumpet-like flowers, handsomest of all. **35c.**

Trumpet Vine—Large, red, trumpet-like flowers, three to four inches long. Makes a fine screen—the rankest grower of all our climbers. **25c.**

Wistaria, Chinese Purple—Has long pendulous clusters of pale violet flowers. Slow in becoming established, but after that a great grower. Where the plant has room to develop to perfection, we regard the Wistaria as without a peer in the entire list of ornamental shrubs and climbers. Its blooming season is of unusual length. **50c.**

Wistaria, Chinese White—Same as last except in color. A somewhat lighter grower. **50c.**

CLEMATIS

The finest class of flowering climbing vines. The large flowered varieties are light in foliage as compared with their blossoming capacity, and where a screen and flowers are both desired, they are very fine planted with American Ivy and allowed to over run the Ivy. Their large, spreading, starlike blooms are familiar to all.

Clematis, Henryii—Large flowered, pure white. A very strong grower. **50c.**

Clematis, Jackmanii—Very large, deep purple. **50c.**

Clematis, Madam Eduard Andre—Flowers a little smaller than last; deep, rich wine color. **50c.**

Clematis, Paniculata—Covered with small white blossoms in late summer. Very strong grower and makes a sufficient screen. The effect of its bloom is similar to that of the Fringes and Van Houttei—it completely covers the plant. **25c.**

HEDGE PLANTS

	Per 100	Per 1000
Arbor Vitæ, 12–18 in	$15.00	
Barberry, Japan, 12–18 in	15.00	
A very handsome hedge plant.		
California Privet, 18–24 in	8.00	$50.00
Norway Spruce, 12–18 in	20.00	

ORNAMENTAL SHADE and NUT TREES

Sizes will be such as constitute first-class trees of the various varieties, running from 3 to 5 ft. on such as Crab, to 7 to 10 ft. on such trees as Maples and Poplars. ***Especially good varieties.**

Birch, Cut Leaf	$ 1.00
Catalpa, Bungeii	1.00
***Catalpa**, Speciosa	.50
Chestnut, American	.75
Chestnut, Japanese	1.00
***Crab**, Bechtel's Flowering	.50
***Elm**, American	1.00
Linden, American (Basswood)	1.00
Linden, European	1.00
Magnolia, Acuminata	1.00
Maple, Ash Leaf	.50
Maple, Norway	1.00
***Maple**, Silver Leaf	.75
Maple, Sugar	1.00
Maple, Sycamore	1.00
***Maple**, Wier's Cut Leaf	1.00
Mountain Ash, American	.50
Mountain Ash, Oak Leaf	.75
***Poplar**, Carolina	.25
Poplar, Lombardy	.50
Tulip Tree	1.00
Walnut, Black	1.00
Walnut, English	.75
Walnut, Japanese	.75

CAROLINA POPLAR—Probably about 5 or 6 years planted

CAROLINA POPLAR

8 to 10 ft., 25c each

The most popular shade tree grown today. Last spring we sold 25 different varieties of deciduous shade and ornamental trees: of the entire number, **over 70 per cent. were Carolina Poplars!**—over twice as many of this one variety as all the other 24 put together.

There are several reasons for this, the first being its **great adaptability to different uses.** It makes a handsome shade tree for the lawn, it makes a splendid wind break, and if you will plant it a foot or fifteen inches apart it will make in a few years, a solid fence that will turn almost any kind of stock, except rabbits and small boys. A second reason is its **very rapid growth**; you may count on three to six feet growth per year for the first few years. A third reason is its **vitality**—you almost can't kill it. Stick it into the ground anywhere and it lives. A fourth reason is its **cheapness.** It costs little to grow it and sells accordingly. If you have a place where you want a windbreak, try this; plant three rows about three feet apart each way, having the trees in two rows come opposite the intervals in the first row, or, if a barrier is also wanted, make a single row planting them 12 inches apart. If you have a pasture where some shade is needed, plant Carolina, using the large trees for this purpose. If you have a bank where there is danger of washing, plant small Carolinas. For all these purposes the Carolina is simply an ideal tree, and the cost is very low. Where quantity is needed for such purposes, we make very low prices. The 8 to 10 foot 25c grade, by the hundred we quote at $15; a grade of the same age but 5 to 7 feet, we sell for $10 per hundred, and the one year trees, running about 3 feet and upward in height, we sell for $5 per hundred.

CATALPA SPECIOSA—7 to 9 ft., 50c each

This is next to Carolina in popularity, our sales of ornamental trees after taking out the Carolina, running over 24 per cent to Speciosa, and the two together being over 77 per cent. Even with this large showing I often wonder that it is not more widely planted for lawn purposes, as it is a most charming tree, having the most beautiful blooms of any of the common deciduous shade trees.

Aside from its beauty as a lawn tree, it has great value for fence posts, its timber ranking very high in its resistance to decay. Planted at the proper intervals for posts, in 3 to 5 years it is ready for the wire.

Our best grade, 7 to 9 feet is 50c each. We have a block about 5 feet high which we sell this year for 35c each, or, with Carolina, for 50c for the two trees. For timber or fence purposes we quote the following prices. As a large portion of our Catalpa are grown for us in the west, we must have orders for the smaller sizes early, and they may be shipped direct to you, f. o. b. shipping point, to save time lost by reshipment.

5–6 ft., not less than 50 trees	**20c each**	**2½–4 ft., not less than 50 trees**	**10c each**
4–5 ft., not less than 50 trees	**15c each**	**2–3 ft., not less than 100 trees**	**5c each**

DWARF SAND CHERRY

A low growing ornamental shrubby tree with attractive white blooms in the spring and red edible berries in the summer. Very hardy, will stand 70 degrees of frost. Especially desirable on large estates for large mass effects. **Price: 25c each, $2.50 per doz., $12.50 per 100.**

EVERGREEN TREES—about 2 ft.

Arbor Vitae, American	$ .50
Arbor Vitae, Pyramidalis	.75
Arbor Vitae, Siberian	.75
Fir, Balsam	.50
Pine, Austrian	.50
Pine, Scotch	.75
Spruce, Colorado Blue	2.00
Spruce, Koster's Blue	2.50
Spruce, Norway	.50

THE PROPER TIME TO SHIP TREES IN THE SPRING

There are two kinds of requests from our customers that owing to climatic conditions, we cannot grant.

A party from northern New Hampshire writes, "Please do not send my trees till about May 15th." Another writes from New Jersey under date of March 10th, "Hurry this order on **at once**, as strawberries are in bloom and its getting too late to plant trees."

We are sorry, but we can't do either; if our nurseries were in New Jersey in one instance and in northern New Hampshire in the other, we could. But we are about three weeks later than one locality and as much earlier than the other. In these three localities nature wakes up from its nap at different times, and the planter who has not thought of these things, very naturally thinks that the only time to plant trees in his locality is **just when vegetation starts there.** The earliness of vegetation in your locality does not control the time for safe tree planting—the vital question is, **are the trees you receive dormant or practically so?** If they are, it is safe to plant even if strawberries are ripe.

Before we can pack we have to dig; we can't dig till the frost is out of the ground, and it then takes two or three weeks before we can get all varieties ready for shipment; so that it is usually early April before we can commence shipping except in case of large orders of few varieties which we may have already dug and in cellar—these we can ship at any time.

So please, Mr. Customer from Long Island or New Jersey or South, don't hurry us too much; if you send in your order reasonably early **we will get the stock to you in a dormant condition** which is the essential thing.

Now, for our New Hampshire friend, the conditions are just reversed; our trees here in our climate which is warmer than his, will push out before he is ready to plant; therefore it is better for the stock to be sent on some time in April and held in his own cellar where in his colder climate it will remain dormant later than it would in our care, and keep in far better condition. We send directions for caring for trees received before wanted for planting.

SIZE OF DWARF FRUIT TREES

We have had some complaint of our dwarf fruit trees on the ground that "they are too small." One gentleman who made this statement lives only a stone's throw from a grove of California Big Trees, so his standards of size are very likely somewhat distorted. Well, of course, our dwarfs are small—if they weren't they wouldn't be dwarfs. If you were buying a Shetland pony for the kid, you would want a Shetland, not a seventeen hand draft horse.

Except in pears and to a slight extent in apples, we are the only nurserymen in the country so far as we know, who are growing a general line of dwarf fruit trees; and in growing all these dwarfs we find that our tendency has been **to head them too high, rather than too low,** and in the future we expect to head them still lower, so as to help you to **start your dwarfs right by starting them low;** and small as some of these dwarf trees may look when you receive them, for the very best results in training to most dwarf forms, you will need to cut them back still further.

So you see, we are "between the devil and the deep sea"; **we want** to give our customers the best trees possible to start with, and of course **we must** please them! If size is a chief consideration and you want something that shows up big the first year, by all means plant standards.

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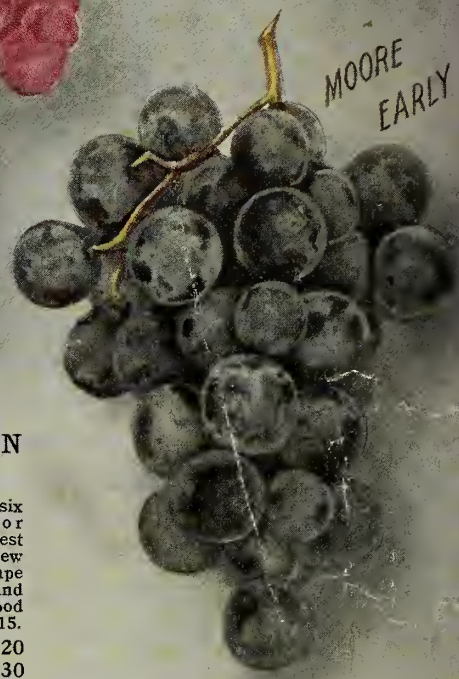
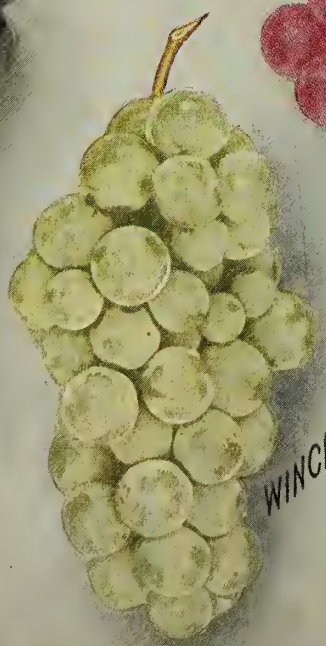
Press of W. F. Humphrey, Horticultural Printer, Geneva, N. Y.



ARBOR COLLECTION
POSTPAID

This page shows the six varieties of our Arbor Collection—the choicest possible collection for so few varieties. Other Grape Collections will be found together with many good tree collections on page 15.

1 Catawba	$.20
1 Campbell Early	.30
1 Delaware	.20
1 Niagara	.20
1 Moore Early	.20
1 Winchell	.30
List Price	$1.40
COLLECTION PRICE, Postpaid	1.10